

This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

+ *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.

+ *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.

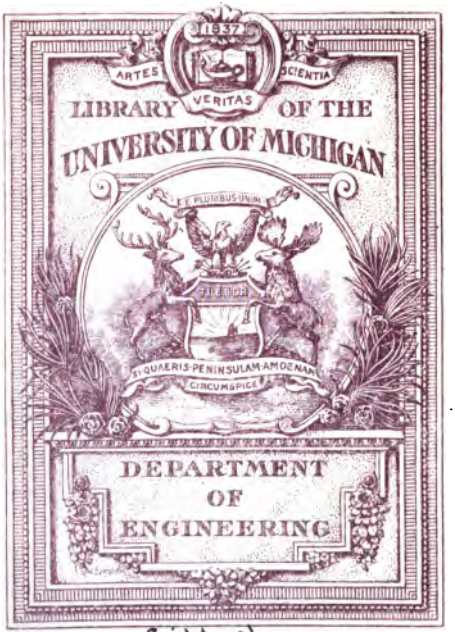
+ *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.

+ *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at `http://books.google.com/`





Gift of
Roehr Pub. Company.







NAMES AND ADDRESSES

OF THE

OFFICERS AND MEMBERS

OF THE

SOCIETY OF

NAVAL ARCHITECTS

AND MARINE ENGINEERS

12 WEST THIRTY-FIRST STREET,

NEW YORK

FEBRUARY 1, 1906.

ROEHR PUBLISHING COMPANY

35 MYRTLE AVENUE

BROOKLYN, N. Y.

Engin. Library
VM
1
.S6787
1906

SOCIETY OF NAVAL ARCHITECTS AND MARINE ENGINEERS . .

LIST OF OFFICERS

President

FRANCIS T. BOWLES, Esq.

Past President and Honorary Associate Member

CLEMENT A. GRISCOM, Esq.

Vice-Presidents

WASHINGTON L. CAPPS, U.S.N.
CHARLES H. CRAMP, Esq.
ROBLEY D. EVANS, U. S. N.
FRANK L. FERNALD, U. S. N.
FRANK E. KIRBY, Esq.
CHARLES H. LORING,, U. S. N.
GEO. W. MELVILLE, U. S. N.
GEORGE W. QUINTARD, Esq.
CHARLES W. RAE, U. S. N.
EDWIN A. STEVENS, Esq.
STEVENSON TAYLOR, Esq.

Members and Associate Members of Council

W. IRVING BABCOCK, Esq.
W. H. BROWNSON, U. S. N.
JAMES E. DENTON, Esq.
GEORGE W. DICKIE, Esq.
WILLIAM F. DURAND, Esq.
W. D. FORBES, Esq.
CHARLES R. HANSCOM, Esq.
NAT. G. HERRESHOFF, Esq.
IRA N. HOLLIS, Esq.
WM. H. JAQUES, Esq.
JOHN C. KAFER, U. S. N.
FRANK B. KING, Esq.
JOSEPH H. LINNARD, U. S. N.
W. M. MCFARLAND, Esq.
JACOB W. MILLER, Esq.
ALBERT P. NIBLACK, U. S. N.
LEWIS NIXON, Esq.
CECIL H. PEABODY, Esq.
WALTER A. POST, Esq.
HARRINGTON PUTNAM, Esq.
HORACE SEE, Esq.
E. PLATT STRATTON, Esq.
DAVID W TAYLOR, U. S. N.
GEORGE E. WEED, Esq.

Executive Committee

FRANCIS T. BOWLES, Esq., *ex-officio*
WASHINGTON L. CAPPS, U.S.N.
HARRINGTON PUTNAM, Esq.
LEWIS NIXON, Esq.
EDWIN A. STEVENS, Esq.
STEVENSON TAYLOR, Esq.
WILLIAM J. BAXTER, U. S. N., *ex-officio*.

Secretary-Treasurer

WILLIAM J. BAXTER.



LIST OF MEMBERS

HONORARY MEMBERS.

HASWELL, CHARLES H., 324 West 78th street, New York
WHITE, SIR WILLIAM, K. C. B., Etc., Late Chief Constructor, British Navy, Cedarcroft, Putney Heath, S. W., London England.

HONORARY ASSOCIATES.

BRASSEY, Rt. Hon. Lord, K.C.B., Etc., London, England.
GRISCOM, CLEMENT A., 305 Walnut st., Philadelphia, Pa.

LIFE MEMBERS

CRAMP, CHARLES H., The Wm. Cramp & Sons' Ship and Engine Building Co., Philadelphia, Pa.
FRICK, HENRY C., Capitalist, Frick Bldg., Pittsburg, Pa.
JAQUES, WM. H., Little Boar's Head, N. H.
MANTON, FRANK S., Manager, American Ship Windlass Co., Providence, R. I.
QUINTARD, GEORGE W., Quintard Iron Works, Foot East 12th street, New York.

LIFE ASSOCIATE MEMBERS

DINKEY, ALVA C., President, Carnegie Steel Co., Pittsburg, Pa.
PUTNAM, HARRINGTON, 27 William street, New York.
QUAYLE, GEORGE L., Retired Ship Builder and Ship Owner, 3080 Euclid avenue, Cleveland, Ohio.
STEVENS, EDWIN A., 68 Broad street, New York.

3 146270

MEMBERS

A

ADAMS, LAWRENCE STOWELL, Naval Constructor, U. S. Navy, Navy Yard, Norfolk, Va

ADDICKS, WALTER R., Vice-President, Consolidated Gas Company, 4 Irving Place, New York City.

ALEXANDER, EDWIN S., Inspector, Newport News S. B. & D. D. Company, Newport News, Va.

ALI, M., Lieutenant, Imperial Ottoman Navy, Constantinople, Turkey. On duty at The Wm. Cramp & Sons' S. & E. B. Company, Philadelphia, Pa.

ALLDERDICE, WM. H., Commander, U. S. Navy, Retired, care of Navy Dept., Washington, D. C.

ALLEN, ARTHUR P., Asst. Manager, Hall Brothers' Marine Railway & Shipbuilding Company, Winslow, Washington.

ALLEN, REDFIELD H., Chief Draughtsman, Fore River S. & E. Co., Quincy, Mass.

ALLWORK, ROLAND, Inspecting Engineer, Panama R. R. & S. S. Line, 24 State street, New York.

ALMY, DARWIN, President, Almy Water-tube Boiler Company, 178-184 Allen avenue, Providence, R. I.

ANDERSON, MARTIN A., Commander, U. S. Navy, Retired, "U. S. S. Ohio," San Francisco, Cal.

ANDREWS, JR., THOMAS, Asst. Manager and Naval Architect, Harlan & Wolffs, 31 Wellington Place, Belfast, Ireland.

ANGSTROM, ARENDT, General Manager, Canadian Ship-Building Company, Ltd., Toronto, Ontario, Canada.

ARSENIUS, J. A. F., Torpedo Engineer, Royal Swedish Navy, Royal Dockyard, Stockholm, Sweden.

ARTIS, THOMAS E., Chief Draughtsman, Bath Iron Works, Bath, Maine.



ATLEE, JOSHUA W., Naval Constructor, The Wm. Cramp & Sons' S. & E. B. Co., Philadelphia, Pa. House—Riverton, Burlington Co., N. J.

ATHOUGUIA, ANTONIO JERVIS D', Royal Naval Engineer, Portuguese Navy, 13 Rua da Paz, Lisbon, Portugal.

AUBIN, L. C. E. M., Engineer of Naval Construction, Navy Department, Paris, France.

AYER, ARTHUR WHITTIER, Mechanical Engineer, Care Harrison Brothers & Company, 3403 Gray's Ferry Road, Philadelphia, Pa.

AYERS, SAMUEL L. P., Chief Engineer, U. S. Navy (retired), 1420 Master street, Philadelphia, Penna.

B

BABCOCK, W. IRVING, Engineer and Naval Architect, Maritime Building, Battery Park, New York.

BAILEY, CHARLES F., Chief Engineer, Newport News S. B. & D. D. Company, Newport News, Va.

BAILEY, THEODORUS S., Asst. Chief Engineer, Electric Boat Co., Quincy, Mass.

BALLORD, WEBB RYSEE, Naval Architect, 410 Lumber Ex., Seattle, Wash.

BANCROFT, J. SELLERS, General Manager, Lanston Monotype Machine Co., 1231 Callowhill St., Philadelphia, Pa.

BANKSON, LLOYD, Naval Constructor, U. S. N., Navy Yard, League Island, Pa.

BARRETT, GEORGE E., Leading Draughtsman, Engineering Department, New York Shipbuilding Company, Camden, N. J.

BARRUS, GEORGE HALE, Mechanical Engineer, 12 Pemberton Square, Boston, Mass.

BARRY, RALPH E., Hull Draughtsman, C. & R. Department, Navy Yard, Brooklyn, N. Y.

BARTLETT, CHARLES H., Draughtsman, C. & R. Dept., *Navy* Yard, 71 Hancock street, Boston, Mass.

BATES, EDWARD P., Manufacturer and Contractor,
228 West Water street, Syracuse, N. Y.
BATES, WM. W., Naval Architect,
38 West 2nd avenue, Denver, Colo.
BAUER, MAX HEINRICH, Naval Architect,
Uhlenhorsterwez, 50, Hamburg, Germany
BAXTER, WILLIAM, J., Naval Constructor, U. S. N.,
Navy Yard, Brooklyn, N. Y.
BECKLEY, WILLIAM B., Morris Heights, New York.
BELCHER, AMHERST W., Supt. Repair Shops,
Cornell Steamboat Co., Rondout, N. Y.
BELKNAP, FRANCIS W., care Cox & Stevens, 68 Broad
street, New York.
BERNIER, LOUIS LEON, Contracting and Consulting
Engineer, James Reilly Repair and Supply Co.,
N. Y. House address, 279 Carroll street,
Brooklyn, N. Y.
BERRIER-FONTAINE, J. B. L. F. M., Directeur du
Genie Maritime du Cadre de Reserve, 16 Boule-
vard de Strassbourg, Toulon-sur-mer, (Var), France.
BERRY, WARREN TAYLOR, Assistant Superintendent,
Marine Construction, N. Y., N. H. and H.
R. R. Co., 230 West 97th street, New York.
BERTIN, L. E., Director of Naval Construction,
French Navy, 8 Rue Garanciere, Paris, France.
BESSELIEVRE, WM. C., JR.,
57 Garfield avenue, New London, Conn.
BEURET, JOHN D., Naval Constructor, U. S. Navy,
Navy Yard, Puget Sound, Wash.
BIGELOW, FRANK LEWIS, Pres., The Bigelow Co.,
New Haven, Conn.
BILES, J. HARVARD, Professor Naval Architecture,
University Glasgow, Glasgow, Scotland.
BINNEY, ARTHUR, Naval Architect,
70 Kilby street, Boston Mass.



BLANKENSHIP, JOHN MILLINGTON, Asst. Supt., Merchants and Miners' Transportation Co., 1605 St. Paul Bldg., Baltimore, Md.

BLOM, CHRISTIAN, Commander Norwegian Navy and Sub-Director of the Navy Yard, Horten, Norway.

BOWERS, CHARLES C., Superintending Engineer, 151 Chilton street, Elizabeth, N. J.

BOWERS, FREDERICK C., Lieutenant-Commander, U. S. N., "U. S. S. Brooklyn," care Navy Dept., Washington, D. C.

BOWLES, FRANCIS T., Ex-Chief Constructor U. S. Navy, President, Fore River Shipbuilding Co., Quincy, Mass.

BRAUCHLI, JACOB, Inspecting Draughtsman . Office of Superintending Engineer, U. S. N., Newport News S. B. & D. D. Co., Newport News, Va.

BRAY, C. D., Prof. Mechanical Eng., Tuft's College, Mass.

BREWER, CHARLES B., Chief Draughtsman, Bureau of C. & R., Navy Department, Washington D. C.

BROWN, DANIEL D. B., Inspector, U. S. Engineer's Office, 920 Virginia street Vallejo, Cal.

BRYSON, JOHN, Bureau of Construction and Repair, Navy Dept., Washington, D. C.

BUCKELEW, CHARLES HENRY, Manager, New York Office, Ashton Valve Co., 128 Liberty street, New York. House, 126 West 5th street, Plainfield, N. J.

BULL, GOOLD H., Professor of Marine Engineering, Webb's Academy, University Heights, New York.

BUSCH, ARTHUR L., Electric Boat Co., Quincy, Mass.

C

CANAGA, ALFRED B., Commander, U. S. N., Bureau of S. E., Navy Dept., Washington, D. C.

CANFIELD, HOBART, Master Mechanic Floating Equipment, P. R. R., Hoboken, N. J.



CAPDEVIELLE, HENRY, Leading Ship Draughtsman, C. & R. Department, Navy Yard, Brooklyn, N. Y.

CAPPS, WASHINGTON L., Rear-Admiral and Chief Contructor, U. S. N., Chief of the Bureau of Conctruction and Repair, Navy, Department, Wahington, D. C.

CARNES, WILLIAM F., Assistant Supt. Engineer in charge of Drawing Rooms, Harlan & Hollingsworth Co., 906 Franklin street, Wilmington, Del.

CARTER, GEORGE JOHN, Manager, Elswick Shipyard, Sir W. G. Armstrong, Whitworth & Co., Ltd., New Castle-on-Tyne, England.

CARTER, T. F., Lieut.-Commander, U. S. N., Navy Yard, Pensacola, Fla.

CASKEY, SAMUEL SHEARER, Supt. of Machinery Construction, Harlan & Hollingsworth Co., Wilmington, Del.

CASSIDY, ARTHUR B., Draughtsman, Office of Superintending Constructor, Fore River Shipbuilding Co., 71 Winthrop avenue, Wollaston, Mass.

CATHCART, WILLIAM LEDYARD, Gwynedd, Pa.

CHASE, MASON SMITH, 31 Wales st., Dorchester, Mass.

CLARK, CARL H., Naval Architect and Engineer, 509 Chamber of Commerce, Boston, Mass.

CLARK, DEAN, Smith Premier Typewriter Co., Syracuse, N. Y.

CLARK, WALTER WILLIAM, Erecting Engineer, Stirling Consolidated Boiler Co., Barberton, Ohio. House, 1322 Stiles street, Philadelphia.

CLARKE, GEO., 1322 Stiles street, Philadelphia, Pa.

CLARKE, SAMUEL J., 309 West 103d street, New York.

COLLISON, WILLIAM BROWN, Draughtsman, Bureau *of C. & R., Navy* Dept., Washington, D. C.

COOK, FRED. M., Leading Hull Draughtsman, *Bath Iron Works,* Union street Court, Bath, Me.



COP, HUIBERT, Prof. Naval Architecture, Polytechnical School at Delft, Oost Singel 61, Delft, Holland.

CORNBROOKS, ERNEST I., Maryland Steel Co., Sparrow's Point, Maryland.

CORNBROOKS, THOMAS M., Chief Draughtsman, Hull Department, Maryland Steel Co., 511 Franklin Terrace, Sparrow's Point, Md.

COWLES, WM. BARNUM, Consulting Naval Architect and Mechanical Engineer, Lake and Wason streets, Cleveland, Ohio.

COX, DANIEL H., Naval Architect, 68 Broad street, New York.

COX, IRVING, Naval Architect, 68 Broad street, New York.

COXE, WILLIAM GRISCOM, President, Harlan & Hollingsworth Co., Wilmington, Del.

CRAIG, GEORGE L., General Manager, Craig Shipbuilding Company, Toledo, O.

CRAIG, JOHN, President, Craig Shipbuilding Co., Toledo, O.

CRAIG, JOHN F., Treasurer, Craig Shipbuilding Co., Toledo, O.

CRAMP, EDWIN S., Supt. Engineer, Wm. Cramp & Sons' S. & E. B. Co., 1936 Spruce street, Philadelphia, Pa.

CRAMP, WILLIAM M., 1227 N. Broad st., Philadelphia, Pa.

CROWNINSHIELD, B. B., Naval Architect, 131 State street, Boston, Mass.

CURR, ROBERT, Surveyor of Iron and Steel Hulls, Rockefeller Building, Cleveland, Ohio.

CURTIS, CHARLES GORDON, International Curtis Marine Turbine Co., 149 Broadway, New York.

CURWEN, HENRY ROBERT, Draughtsman, Fore River, Shipbuilding Co., Quincy, Mass.

D

DAVIDSON, JAMES EDWARD, Assistant General Manager, James Davidson, Shipbuilder, 1710 Centre Avenue, Bay City, Mich.

DAVIDSON, MARSHALL T., 108 St. James Place, Brooklyn, N. Y.

DAVIS, CHARLES HENRY, Consulting Engineer, Room 924, Board Exchange Building, 25 Broad street, New York.

DAVIS, LEONARD D., 2668 Peach street, Erie, Pa.

DEGELDER, WILLEM HESSEL MARIUS, Manager L. Smit and Zoon, Ship and Engine Building Works, Kinderdyk, Holland.

DELAVAL, GEO., Manager, Blake and Knowles Steam Pump Company, East Cambridge, Mass.

DELONG, HAROLD W., P. O. Box 1036, Bath, Me.

DEMING, WILLIAM HENRY, Draughtsman and Mechanical Engineer, Continental Iron Works, Brooklyn, N. Y.

DENTON, JAMES E., Professor Exp. Mechanics, Stevens Institute of Tech., Hoboken, N. J.

DESANGES, H. L., Supt. Floating Equipment, L. I. R. R., Long Island City, N. Y.

DIALOGUE, JOHN H., Shipbuilder, 515 Linden street, Camden, N. J.

DICK, THOMAS MURRITT, 244 Argyle Road, Brooklyn, N. Y.

DICKEY, WM. D., Mechanical Engineer, Room 445, Produce Exchange, New York.

DICKIE, DAVID W., 143 Washington St., Hartford, Conn.

DICKIE, GEO. W., Naval Architect and Marine Engineer, 315 California St., San Francisco, Cal.

DICKIE, JAMES, Naval Architect and Marine Engineer, 315 California street, San Francisco, Cal.

DICKINSON, RANDALL T., Consulting Engineer, Delaware River Ship and Engine Works, Chester, Pa.



DIXON, ALBERT F., Captain, U. S. N., Bureau of S. E., Navy Department, Washington, D. C.
DOBSON, WM. A., Wm. Cramp & Sons' S. & E. B. Co., Philadelphia, Pa.
DODD, WILLIS GORMAN, President, Union Iron Works, San Francisco, Cal.
DONALD, JAMES, Naval Architect, New York Shipbuilding Company, Camden, N. J.
DOUGHERTY, CHARLES J., Electrical Engineer, The Wm. Cramp & Sons' S. & E. B. Co., Philadelphia, Pa.
DUBOIS, A. J., C. E., M. E., Prof. of Engineering, Sheffield Scientific School, Yale College, New Haven, Conn.
DUBOSQUE, F. L., Assistant Engineer, Floating Equipment P. R. R., Jersey City, N. J.
DUKE, JAMES OLIVER, Asst. Superintendent, Kensington Shipyard Company, Philadelphia, Pa.
DURAND, WILLIAM F., Professor, Mechanical Engineering, Stanford University, Cal.

E

EBSEN, HENRY L., Consulting Engineer, 230 West street, New York. House, 927 Bloomfield street, Hoboken, N. J.
ECKART, WILLIAM R., Consulting Engineer, 3014 Clay street, San Francisco, Cal.
EDSON, JARVIS B., 313 West 74th street, New York.
EDWARDS, CHARLES B., Fore River Shipbuilding Co., Quincy, Mass.
EIMERT, GEORGE H., Marine Department, New York Shipbuilding Company, Camden, N. J.
ELDRIDGE, FRANK H., Commander, U. S. Navy, Naval Examining Board, Mills Building, Washington, D. C.
ELLIOTT, WILLIAM E., Chief Engineer, Goodrich Transportation Company, Chicago, Ill.

ELWELL, HOWARD P., Quincy, Mass.

ENGARD, ALBERT C., Chief Engineer, U. S. Navy (retired), 2131 North 19th street, Philadelphia, Pa.

EPES, HENRY S., Assistant Naval Architect Electric Boat Co., Quincy, Mass.

EVANS, HOLDEN A., Naval Constructor, U. S. Navy, Navy Yard, Mare Island, Cal.

EVERETT, HAROLD ARTHUR, Instructor in Naval Architecture, Massachusetts Institute of Technology, Boston, Mass.

EWERTZ, ERIC HAROLD, Supt. of Construction of Subm. Electric Boat Co., Quincy, Mass.; 63 Brook street, Wollaston, Mass.

F

FAIRBURN, WILLIAM A., Suptg. Engineer, Southern Pacific Company, Pier 34, N. R., New York.

FARGUSSON, MARK, Naval Architect and Engineer, Room 801, 11 Broadway, New York.

FARMER, EDWARD, Chief Engineer, U. S. Navy (retired), 274 Newbury street, Boston, Mass.

FELTON, HERBERT C., Superintendent, Delaware River Ferries, Camden, N. J.

FERGUSON, GEORGE R., Assistant Engineer, Dept. of Bridges, 1215 Park Row Bldg., New York.

FERGUSON, HOMER, L., Supt. of Hull Construction, Newport News S. B. & D. D. Co., Newport News, Va.

FERNALD, FRANK L., Naval Constructor, U. S. N. (retired), 86 Madison avenue, New York.

FERRAND, C., Ingenieur-in-Chief de la Marine Francaise, 48 Rue de Grenelle, Paris, France.

FLETCHER, ANDREW, JR., North River Iron Works, Hoboken. N. J.

FLETCHER, WM. H., North River Iron Works, Hoboken. N. J.



FLOOD, H. C., General Manager,
Bergen Mekanikse Vaerksted, Bergen, Norway.

FOLEY, W. C. LEB., Asst. Supt. Hull Construction,
Newport News S. B. & D. D. Co., Newport News, Va.

FORBES, W. D., Member of W. D. Forbes Co.,
1300 Hudson street, Hoboken, N. J.

FORD, DANIEL EDWARD, 26 Broadway, New York.

FORSYTH, ROBERT, Chief Engineer,
Union Iron Works, San Francisco, Cal.

FRASER, ROBERT H., Consulting Engineer and Marine
Surveyor, Chamber of Commerce Building,
Boston, Mass.

FREAR, HUGO P., Naval Architect, Union Iron Works,
127 DeLong avenue, San Francisco, Cal.

FRICK, HENRY EDGEWORTH,
Fore River Shipbuilding Co., Quincy, Mass.

FRIES, AXEL H., Gen. Manager, Soderhamn's Machine
Works and Ship Yard, Soderhamn, Sweden.

G

GARDNER, JOHN HOWLAND, Asst. Supt., Marine Construction, N. Y., N. H. & H. R. R, Newport, R. I.

GARDNER, WM., Naval Architect, 1 Broadway, New York.

GASKIN, EDWARD F. W., Manager, Union Dry Dock
Co., 516 Norwood avenue, Buffalo, N. Y.

GATEWOOD, WILLIAM, Chief Draughtsman,
Hull Dept., Newport News S. B. & D. D. Co.,
Newport News, Va.

GILLMOR, HORATIO G., Naval Constructor, U. S. N.,
Suptg. Constructor, Bath Iron Works, Bath, Me.

GODBOLD, CHARLES H., Jr., Draughtsman,
Union Iron Works, San Francisco, Cal.

GOLDEN, MICHAEL J., Professor Dynamic Engineering,
Purdue University, Lafayette, Ind.

GRAY, THOMAS, Professor Dynamic Engineering, Rose Polytechnic Institute. House, 802 Chestnut street, Terre Haute, Ind.

GREENE, DAVID M., Mechanical Engineer, 41 1st street, Troy, N. Y.

GROESBECK, WM. G., Naval Constructor, U. S. N., Navy Yard, Boston, Mass.

GROGAN, FRANK WILLIS, 123 Tenth street N. E., Washington, D. C.

GUNNELL, ELIAS, President, Manitowoc Dry Dock Co., Manitowoc, Wis.

H

HAIG, ROBERT, Surveyor, Lloyd's Register of Shipping, 324 Bourse, Philadelphia, Pa.

HAIGHT, ROBERT STANLEY, Assistant to Superintending Engineer, Old Dominion S. S. Company, 81 Beach street, New York City.

HALL, ROBERT EVERETT, Secretary, New York Steam Fitting Co., 137 Elm street, New York, N. Y.

HALL, THOMAS S., Supt. Engineer, New York and Texas S. S. Co., 129 Front street, New York, N. Y.

HAMMAR, HUGO, Naval Architect, Lindholmen, Gottenberg, Sweden.

HAMPTON, JAMES R., Superintending Engineer, Townsend-Downey Shipbuilding Co., Shooters Island, N. Y.

HAND, HARRY W., General Manager, The Wm. Cramp & Sons' S. & E. B Company, Philadelphia, Pa.

HANSCOM, CHARLES R., President, Eastern Shipbuilding Co., New London, Conn.

HANSCOM, JOHN F., Naval Constructor, U. S. N. (retired), Senior Member of Board on Changes, *Room 11, 4th Floor,* P. O. Bldg., Philadelphia, Pa.



HARGAN, JAMES A., Chief Draughtsman,
C. & R. Dept., Navy Yard.
House, 45 New York avenue, Brooklyn, N. Y.
HARTT, WM. H., Chief Draughtsman,
C. & R. Dept., Navy Yard, Norfolk, Va.
HARVEY, URBAN, 1st Assistant Engineer, Revenue Cutter Service, Division Revenue Cutter Service, Treasury Department, Washington, D. C.
HAUG, JOHN, Supt. Marine Transportation, Pacific Coast Oil Co., Port Richmond, Cal.
HAWES, R. J., 42 East 21st street, New York.
HAYWARD, H. S., Superintendent Motive Power, Pennsylvania R. R., Jersey City, N. J.
HAY, MARLEY F., Superintending Constructor of Electric Boat Co., 11 Pine street, New York.
HECTOR, DETLOF A., Draughtsman,
Fore River Shipbuilding Co., Quincy, Mass.
HENDERSON, J. C., General Manager,
Whitestone Forge and Construction Co., 11 Broadway, or 239 W. 103d street, New York, N. Y.
HERBERT, FREDERICK DAVIS, 71 Broadway, New York.
HERRESHOFF, JOHN B., President,
Herreshoff Mfg. Co., Bristol, R. I.
HERRESHOFF, NATHANIEL G., Vice-Prest. and Manager,
Herreshoff Mfg. Co., Bristol, R. I.
HESS, HENRY, Managing Director and Chief Engineer,
Deutsche Niles-Werk Zeugmaschinen Fabrik,
Ober-Schone-weide, near Berlin, Germany.
HIBBS, FRANK W., Manager,
Moran Bros. Co., Seattle, Wash.
HIGGINS, HOWARD C., Superintending Engineer,
Old Dominion S. S. Co., 81 Beach street, New York.
HILL, EDWARD BUFFUM, Fore River Shipbuilding Co.,
Quincy, Mass.
HILL, WARREN E., Vice-President,
Continental Iron Works, Station G, Brooklyn, N. Y.



HILLMANN, GUSTAV, Naval Architect, 470 Greene avenue, Brooklyn, N. Y.

HOBSON, R. P., Greensboro, Ala.

HODGE, HARRY SEYMOUR, President, Samuel F. Hodge & Co., Inc., 320 Atwater street, Detroit, Mich.

HOLLIS, IRA N., Prof. Mechanical Engineering, Harvard University, Cambridge, Mass.

HOOVER, JOHN B., Naval Constructor, U. S. N., (retired), 22 Stiles street, Elizabeth, N. J.

HOOVER, JOHN B., JR., 112 Warren Crescent, Norfolk, Va.

HOPKINS, ALBERT LLOYD, Assistant to General Superintendent, Newport News S. B. & D. D. Co., 2904 West avenue, Newport News, Va.

HOPKINS, EDWARD, Chief Draughtsman, Detroit Shipbuilding Co., Detroit, Mich.

HOUGH, EDWARD STAMFORD SAMUEL, Engineer Surveyor, Bureau Veritas, San Francisco, Cal.

HOUGHTON, WILLIAM, Leading Ship Draughtsman, Office of Superintending Constructor, Bath Iron Works, Bath, Maine.

HOVGAARD, W., Professor of Naval Design, Massachusetts Institute of Technology, Boston, Mass. House, 17 Winthrop street, West Newton, Mass.

HOWARD, OLIVER ZELL, Marine Engine and Boiler Draftsman, and Instructor in Mechanical Drawing, in the Dept. of Marine Engineering and Naval Construction, N. S. Naval Academy, Appapolis, Md.

HOWELL, WILLIAM NEILL, Chief Engineer, Simon Lake, Universitats Str. 3B, Berlin, Germany.

HOXIE, WILLIAM D., Marine Dept., Babcock & Wilcox Co., 85 Liberty street, New York, N. Y.

HOYT, FREDERICK M., President, Greenport Basin and Construction Co., Greenport, N. Y. Office, 45 Broadway, New York.



HUNTER, GEORGE BURTON, Chairman and Director, C. S. Swan & Hunter Co., Ltd., Wallsend-on-Tyne, England.

HYDE, CHARLES E., Marine Engineer, Bath Iron Works, Bath, Me.

HYDE, EDWARD W., President, Bath Iron Works, Bath, Me.

J

JACOBUS, DAVID S., Professor of Experimental Engineering, Stevens Institute, Hoboken, N. J.

JANSSON, CONSTANTIN, Naval Architect and Marine Engineer, Unions gtu 41, Helingsfors, Finland.

JEFFREY, FRANK, Detroit Shipbuilding Co., Detroit, Mich.

JOHNSTON, ARCHIBALD, General Superintendent, Bethlehem Steel Co., 120 Church st., Bethlehem, Pa.

JOHNSTONE, EDWARD COCKBURN, General Superintendent and Chief Draftsman, Mosher Water Tube Boiler Co., 1 Broadway, New York. House, Piermont avenue, Grand View-on-Hudson, N. Y.

JONES, CHARLES M., Consulting Engineer and Naval Architect, 1514 North Sixth Street, Philadelphia.

JONES, WALTER R. T., Vice-President, American Bureau of Shipping, 51 Wall street, New York, N. Y.

JONSON, JULIUS, Iron and Brass Founder, 120 Liberty street, New York, N. Y.

JORDAN, S. S., Naval Architect and Engineer, Engineers' Club, 374 Fifth ave., New York, N. Y.

K

KAEMMERLING, GUSTAV, Lieutenant-Commander, U. S. N., 156 Huntington avenue, Boston, Mass.

KAFER, JOHN C., Dumont, N. J.

KATZENSTEIN, LEOPOLD, Mechanical Engineer, 358 West street, New York, N. Y.

KEARNY, GEORGE H., Captain, U. S. N., Navy Yard, Brooklyn, N. Y.

KEOUGH, WILLIAM T., Consulting Engineer and Naval Architect, 508 Board of Trade Bldg., 131 State street, Boston, Mass.

KILLILEA, JAMES J., Supt. Construction, U. S. Light House Establishment, 39 Howland street, Roxbury, Boston, Mass.

KING, FRANK B., 1442 Rhode Island avenue, Washington, D. C.

KIRBY, FRANK E., Naval Architect, 555 Woodward avenue, Detroit, Mich.

KIRBY, GILBERT L., San Francisco, Cal.

KONITZKY, H., Naval Architect, Baltimore Shipbuilding and Dry Dock Co., Station "E," Baltimore Md.

L

LANZA, GAETANO, Professor, Theoretical and Applied Mechanics, Massachusetts Inst. Tech., Boston, Mass.

LASSOE, VALDEMAR F., Engineer and Naval Architect, Maritime Building, 8 Bridge st., New York, N. Y.

LEAVITT, FRANK M., Mechanical Engineer, 258 Broadway, New York.

LEFLAIVE, L. J. G., Ex-Naval Constructor, French Navy, and Manager Bietrix, Leflaive, Nicolet, & Cie, Saint Etienne, France.

LELAND, WALTER S., Instructor in Naval Architecture, Mass. Institute of Technology, Boston, Mass.

LEONARD, JOHN C., Lieutenant-Commander, U. S. N., 112 Willoughby avenue, Brooklyn, N. Y.

LEPINE, F. C., Carpenter, U. S. N., "U. S. S. Denver," Address, care of Navy Dept., Washington, D. C.

LEVENTHAL, PHILIP, Designing Engineer and Chief Draughtsman, with Wm. Gardner, 1 Broadway, New York, N. Y.

LEVY, EDMOND L., Vice-President,
Neafie & Levy, Shipbuilders,
Room 314, Harrison Bldg., Philadelphia,



LIGNOLA, RAIMONDO, Naval Constructor, Royal Italian Navy, R. Cantiere di Castellamare di Stabia, Italy.
LILJEGREN, CARL OSCAR, Ingenior, Goteborg, Sweden.
LILLIEHOOK, CHARLES J. F. M.,, Prof. Naval Architecture, Royal Technical High School, Grefturegatan 63, Stockholm, Sweden.
LINCOLN, JAMES M., 405 Lenox avenue, New York, N. Y.
LINDFORS, HENRY A., Prof. Naval Architecture, Chalmers Institute Technology, Gottenburg, Sweden.
LINNARD, JOSEPH. H., Naval Constructor, U. S. N., Bureau of C. & R., Navy Department, Washington, D. C.
LOEWENSTEIN, LOUIS C., Instructor Mechanical and Marine Engineering, Lehigh University, South Bethlehem, Pa.
LOGAN, ROBERT, Consulting Engineer, American Shipbuilding Co., Cleveland, Ohio.
LORING, CHARLES H., ex- Engineer-in-Chief, U. S. N., (retired), 239 Clermont avenue, Brooklyn, N. Y.
LOVEKIN, LUTHER D., Chief Engineer, New York Shipbuilding Co., Camden, N. J.
LOYD, JOHN, Mechanical Engineer, 558-562 Water street, New York, N. Y.
LUKE, WILLIAM JOSEPH, Naval Architect, John Brown & Company, Ltd., Clydebank, Scotland.
LUCAS, THEODORE, 801 St. Johns Place, Brooklyn, N. Y.
LYSHOLM, HENRY, Superintendent of Hull Construction, New York Shipbuilding Co., Camden, N. J.

M

MCALLASTER, EUGENE L., Mechanical Engineer and Naval Architect, 502-504 Pioneer Building, Seattle, Wash.
MCALLISTER, CHARLES ALBERT, Engineer-in-Chief, *U. S.* Revenue Cutter Service, Treasury Dept., Washington, D. C.

McDERMOTT, GEORGE R., Prof., School of Marine Construction, Sibley College, Cornell University, Ithaca, N. Y.

McELHINEY, MARK P., Nautical Adviser, Marine Dept., 252 Lisgar street, Ottawa, Ontario, Canada.

McFARLAND, WALTER M., Westinghouse Electric and Manufacturing Co., P. O. Box 911, Pittsburg, Pa.

McKINLAY, JAMES, Marine Draughtsman, Union Iron Works, 645 Wisconsin street, San Francisco, Cal.

McMAKIN, JOSEPH, General Supt. of Construction, U. S. Light House Board, Washington, D. C.

McMUTRIE, LAURENCE H., of McMutrie-Guiler Co., Consulting Engineers, 69 Wall st., New York, N. Y.

MACALPINE, JOHN H., Naval Architect and Consulting Engineer, 615 Walnut street, Philadelphia, Pa.

MACLEAN, ALEXANDER J., Prof, Naval Architecture, Webb's Academy, University Heights, N. Y.

MAGEE, EDWARD A., Chief Engineer, U. S. N., (retired), 187 Marcy avenue, Brooklyn, N. Y.

MAGEE, GEO. W., Chief Engineer, U. S. N. (retired), 187 Marcy avenue, Brooklyn, N. Y.

MAGOUN, HENRY A., Engineer, Marine Department, Maryland Steel Co., Sparrow's Point, Md.

MAIN, ARCHIBALD MACNICOL, Chief Draughtsman, The Harlan & Hollingsworth Co., Wilmington, Del.

MALSTER, WILLIAM T., President, Columbian Iron Works, 1811 North Charles street, Baltimore, Md.

MANCOR, JAMES HENRY, Principal Engineer Surveyor, Lloyd's Register of Shipping, 15 Whitehall street, New York, N. Y.

MANNING, CHARLES H., Passed Asst. Engineer, U. S. N. (retired), Superintendent, Amoskeag Mfg. Co., Manchester, N. H.

MARVEL, THOMAS S., Shipbuilder, *51 Ann* street, Newburgh, N. Y.



MATTHEWS, EVERETT M., Chief Draughtsman,
C. & R. Dept., Navy Yard, League Island, Pa
MATTICE, ASA M., Hotel Lucerne, 201 W. 79th
Street, New York.
MELLIN, CARL J., Consulting Engineer, American Locomotive Company, 1109 Union st., Schenectady, N. Y.
MELVILLE, GEO. W., Rear-Admiral, Ex-Engineer-in-Chief, U. S. N., (retired), 615 Walnut street,
Philadelphia, Pa.
MICHAEL, LUCIUS M., Hull Draughtsman,
N. Y. Shipbuilding Co., Camden, N. J.
MICKLEY, ALBERT J., Mechanical Engineer,
Dept. of Docks and Ferries, foot of West
57th street, New York City.
MIDDLETON, PERCY H., Vice-President H. I. Crandall Company, 102 Border street, East Boston, Mass.
MILLER, SPENCER, Chief Engineer, Cableway Dept., Lidgerwood Mfg. Co., 95 Liberty street, New York.
House, 217 Turrell avenue, So. Orange, N. J.
MILLER, WALTER, Consulting Engineer,
407 Perry-Payne Building, Cleveland, O.
MILLS, EDMUND, in charge of Marine Dept.,
The Babcock & Wilcox Co., Bayonne, N. J.
House, 319 Arlington avenue, Jersey City, N. J.
MILNE, JAMES STRACHAN, Supt. Neafie & Levy S. & E. B. Co., Philadelphia. House, The Robeson,
Camden, N. J.
MONTEAGLE, ROBERT CHARLES, Chief Engineer,
The Atlantic Works, East Boston, Mass.
MOONEY, THOMAS, Engineer, Roach's Shipyard,
Chester, Pa.
MOORE, DOUGLASS G.,
424 Westminster avenue, Elizabeth, N. J.
MOORE, MILLER F., 45 East 4th avenue, Roselle, N. J.
MOORE, STEWART H., 6639 Perry avenue, Chicago, Ill.

MORAN, ROBERT, President and Manager,
Moran Bros. Co., Seattle, Wash.
MORITZ, ALBERT, Commander, U. S. N. (retired),
153 East 73d street, New York.
MOSHER, CHARLES D., Mechanical Engineer,
1 Broadway, New York, N. Y.
MOWER, CHARLES D., Naval Architect and Yacht
Broker, 29 Broadway, New York.
MUCKLE, M. R., JR., Mechanical Engineer,
21 South 12th street, Philadelphia, Pa.
MULL, JAMES HENRY, General Supt., The Wm.
Cramp & Sons' S. & E. B. Co., Philadelphia, Pa.
MULLER, GEORGE, Naval Architect and Engineer,
820 23rd street N. W., Washington, D. C.

N

NEWMAN, RICHARD LANO, Naval Architect,
20 Russell street, Victoria, B. C.
NICKUM, WM. CARR, Draughtsman,
Wm. Cramp & Sons' S. & E. B. Co.,
133 Apsley street, Philadelphia, Pa.
NILSON, LEONARD J., Yacht Builder,
Ferry Bar, Baltimore, Md.
NISH, WILLIAM, Supt. Engineer, Anchor Line,
17-19 Broadway, New York, N. Y.
NIXON, LEWIS, 26 Cortlandt street, New York, N. Y.
NORMAN, JOHAN HUGO, Asst. Chief Draughtsman,
Hull Construction Department, The Wm.
Cramp & Sons' S. & E. B. Co., Philadelphia, Pa.
NORTON, HAROLD P., Lieut.-Commander, U. S. Navy,
Dept. of S. E., Navy Yard, Brooklyn, N. Y.
NUTTING, DANIEL CHAPLIN, Naval Constructor,
U. S. N., Navy Yard, Brooklyn, N. Y.
NYSTEDT, THURE G., Naval Constructor,
Royal Swedish Navy, Carlskrona, Sweden.



O

Oldham, Joseph R., Naval Architect, 814 Perry-Payne Building, Cleveland, O.

O'Neil, Charles, Rear-Admiral, U. S. N., (retired). Care of U. S. Despatch Agent, London, England.

O'Neill, James J., Mechanical Engineer, The Fairfield Shipbuilding and Engineering Co., Ltd., Govan, Glasgow, Scotland.

P

Packard, Alpheus Appleton, Naval Architect and Engineer, 131 State street, Boston, Mass.

Page, Charles Barnard, President, Page Engineering Co., Inc., 507 West Pratt st., Baltimore, Md.

Pahlow, Franklin Conrad, Yard Supt., Great Lakes Engineering Works, Detroit, Mich.

Palen, Frederick Pomeroy, Chief Draughtsman, Engine Dept., Newport News S. B. & D. D. Co., Newport News, Va.

Palmer, George Q., President Quintard Iron Works, Foot of East 12th street, New York, N. Y.

Palmer, Nicholas F., Jr., Treasurer and General Manager, Quintard Iron Works, Foot of East 12th Street, New York, N. Y.

Palmer, William Franklin, Architect and Managing Owner, Palmer Fleet, Uphams Cor., P. O. No. 27 Hartford street, Dorchester, Mass.

Parsons, H. DeB., Consulting Engineer, 22 William street, New York, N. Y.

Paterson, James V., Naval Architect, International Mercantile Marine Co., Pier 14, N. R., New York.

Patterson, Joseph Sanborn, Consulting Engineer, 340 73rd street, Brooklyn, N. Y.

Patterson, Howard, President, New York Nautical College, 130-132 Water street, New York, N.

PAULI, SVEN, Assistant Naval Constructor,
Kockums Wharf, Malmo, Sweden.
PEABODY, CECIL H., Professor of Naval Architecture
and Marine Engineering, Massachusetts Insti-
tute of Technology, Boston, Mass.
PEACOCK, EDWARD L., Chief Constructor, care Simon
Lake, 3 B. Universitats, Str., N. W. 7,
PENTON, HENRY, Chief Engineer, Berlin, Germany.
Great Lakes Engineering Works,
210 Palmer avenue, Detroit, Mich.
PERHAM, ERNEST A., Leading Draughtsman,
C. & R. Department, Navy Yard, Brooklyn, N. Y.
PERRY, WILLIAM A., care H. R. Worthington Co.,
114 Liberty street, New York, N. Y.,
House, 7 East 56th street.
PFATISCHER, MATHIAS, Chief Engineer,
Electro-Dynamic Co., Philadelphia, Pa.
162 West Coulter street, Germantown. Pa.
PITTS, THOMAS DORSEY, Civil Engineer,
45 Broadway, New York.
PLATT, JOHN, of Thorpe, Platt & Co.,
97 Cedar street New York, N. Y.
POMMER, EUGENE R., 384 Decatur street, Brooklyn. N. Y.
POPPER, SIEGFRIED, Chief Const. Imperial and
Royal Austro-Hungarian Navy, Pola, Austria.
POST, WALTER A., General Superintendent,
Newport News S. B. & D. D. Co., Newport News, Va.
POWELL, JOSEPH WRIGHT, Assistant Naval Con-
structor, U. S. N., the William Cramp &
Sons Ship and Engine Building Co.,
Philadelphia, Pa.
POWELL, WILLIAM T., 1699 31st st., Washington, D. C.
POWERS, WILBUR F., Hull Draughtsman,
N. Y. Shipbuilding Co., Camden, N. J.
PRATT, FRANCIS E., New York Representative, Almy
Water Tube Boiler Co., 52 Broadway, New York, N. Y.



PRAY, THOMAS, JR., Consulting Engineer,
P. O. Box 2809, Boston, Mass.
PUSEY, CHARLES W., Claymont, Del.

R

RAE, CHARLES W., Rear-Admiral and Engineer-in-chief, U. S. Navy, Chief of the Bureau of Steam Engineering, Navy Department,
Washington, D. C.
House Address, 1827 Jefferson Place.

RAYNAL, ALFRED H., Bureau of Steam Eng., Navy Yard, 1626 Riggs Place, N. W., Washington, D. C.

REBER, LOUIS E., M. S., Dean, School of Engineering, Pennsylvania State College, State College, Pa.

REBOLLEDO, MIGUEL, Ingeniero, Calle Sur, 34, No. 5,
Mexico City, Mexico.

REDGRAVE, DEWITT, C., Commander, U. S. N.,
(retired), Naval Academy, Annapolis, Md.

RICHARDS, CHARLES B., Prof. Mechanical Engineering, Sheffield Scientific School, Yale University,
227 Edwards street, New Haven, Conn.

RICHSON, CARL, Naval Constructor, Royal Swedish Navy, Riddarholmen 11, Stockholm, Sweden.

RITCHIE, JACOB S.. Supt. Engineer, Luckenbach Towing and Wrecking Co., 129 Broad street,
New York City.

ROBERTS, EDWARD E., Prest., Roberts Safety Boiler Co., 39-41 Cortlandt street, New York, N. Y.
Residence, Red Bank, N. J.

ROBERT, WILLIAM P., Naval Constructor, U. S. N.,
Navy Yard, New York.

ROBERTS, THOMAS GAINES, Naval Constructor,
U. S. N. Naval Station, New Orleans, La.

ROBINSON, EDWARD P., Supt. Atlantic Works,
70 Border street, East Boston, Mass.

ROBINSON, RICHARD H. M., Asst. Naval Constructor, U. S. N., Bu. C. & R., Navy Dept., Washington, D. C.

ROBINSON, S. W., Professor Emeritus, Mech. Engineering, Ohio State University, 1353 Highland street, Columbus, O.

ROCHE, GEORGE, W., Chief Engineer, U. S. N. (retired), 1304 McCullough street, Baltimore Md.

ROCK, GEO. H., Naval Constructor, U. S. N., Navy Yard, Portsmouth, N. H.

ROELKER, CHARLES R., Rear-Admiral, U. S. N., 1434 Q street, N. W., Washington, D. C.

ROELKER, H. B., Mechanical Engineer, 41 Maiden Lane, New York, N. Y.

ROSSELL, AXEL GUSTAF, Chief Draughtsman, Construction Dept., Wm. Cramp & Sons S. & E. B. Co., Philadelphia, Pa.

ROTTMER, HENRY E., Draughtsman, Bureau Construction and Repair, Navy Dept., Washington, D. C.

ROW, REUBEN, ROBERT, Superintendent of Construction, U. S. Light House Service, Washington, D. C. House, 1703 West North avenue, Baltimore, Md.

ROWEN, JOSEPH B., Fore River Shipbuilding Co., Quincy, Mass.

ROWLAND, CHARLES B., Asst. Secretary and Engineer, Continental Iron Works, Brooklyn, N. Y. House, 329 Madison avenue, New York, N. Y.

ROWLAND, T. F., Prest. Continental Iron Works, Brooklyn, New York. House, 329 Madison avenue, New York, N. Y.

ROWLAND, T. F., JR., Sec'y Continental Iron Works, P. O. Station G., Brooklyn, N. Y.

ROWLAND, WILLIAM, 811 East 9th st., New York, N. Y.

RUHM, THOMAS F., Naval Constructor, U. S. N., Superintending Constructor, Moran Bros. Co., Seattle, Wash.

S

Sabri, S., Lieut.-Commander,
Imperial Ottoman Navy, Constantinople, Turkey,
On duty at The Wm. Cramp & Sons S. & E. B. Co.,
Philadelphia, Pa.

Sadler, Herbert C., Prof. Naval Architecture,
University Michigan, Ann Arbor, Mich.

Sadtler, Edwin Beale, Naval Architect,
The Harlan & Hollingsworth Co., Wilmington, Del.

Savage, Silas Antony, Asst. Supt. Engineer,
U. S. Light House Board, Washington, D. C.

Schock, Edson B., Naval Architect, Yacht and Ship
Broker, 9 Murray street, New York.

Schofield, Charles, Naval Architect and Surveyor,
39 Main street, Tottenville, N. Y.

Schulze, Henry H.,
Fore River Shipbuilding Co., Quincy, Mass.

Schwab, Charles M., 71 Broadway, New York.

Scott, John Thomas, Supt. Union Iron Works' Shops,
1852 Geary street, San Francisco, Cal.

Scribner, Edward H., Commander, U. S. N.
(retired), Navy Yard, Boston, Mass.

Seabury, Charles L., Gas Engine and Power Co.,
and Chas. L. Seabury Company, Consolidated,
Morris Heights, New York, N. Y.

See, Horace, Naval Architect and Marine Engineer,
1 Broadway, New York, N. Y.

Sellers, Coleman, Consulting Engineer,
1304 Stephen Girard Building, Philadelphia, Pa.

Sellers, Coleman, Jr., Mechanical Engineer,
410 N. 33rd street, Philadelphia, Pa.

Sherwood, John Roberts, Vice-President and General
Manager, Baltimore Steam Packet Co.,
Baltimore, Md.

Sims, Jas. W., Draughtsman, 21 Hope st., Hampton, Va.

SKINNER, HARRY G., Prest. The Wm. Skinner & Sons' S. B. & D. D Co., Foot of Cross st., Baltimore, Md.

SLOAN, HORACE T., JR., Chief Draughtsman, Floating Equipment, Pennsylvania R. R. Company, Jersey City, N. J.

SLOANE, JOHN D., Dubuque, Iowa.

SMITH, A. CARY, Naval Architect, 90 Wall street, New York, N. Y.

SMITH, CARROLL S., New York Agent, Wm. Cramp & Sons S. & E. B. Co., 100 Broadway, New York, N. Y.

SMITH, FRANCIS B., Chief Engineer, Pittsburg Steamship Co., Cleveland, O.

SMITH, G. EDWARD, Smith & Robinson, Engineers, 605 Provident Building, Philadelphia.

SMITH, GODFREY L., Draughtsman, Newport News S. B. & D. D. Company, Newport News, Va.

SMITH, HENRY G., General Manager, Fore River Shipbuilding Co., Quincy, Mass.

SMITH, JOHN A. B., Rear Admiral, U. S. N. (retired)., 570 Greene avenue, Brooklyn, N. Y.

SMITH, SOMMERS N., Vice-Pres't and Gen'l Manager, Neafie & Levy S. & E. B. Co., Philadelphia, Pa.

SMITH, STUART FARRAR, Asst Naval Constructor, U. S. N., Naval Station, Cavite, P. I.

SMITH, WILLIAM BLACKBURN, Engineer and Contractor, Perth Amboy, N. J.

SMITH, WM. POULTNEY, Mechanical and Marine Engineer, Wm. Cramp & Sons' S. & E. B. Co., Philadelphia, Pa.

SMITH, WM. STROTHER, Lieutenant-Commander, U. S. N., U. S. S. West Virginia, care Postmaster, N. Y.

SNEDDON, JAMES PRENTICE, Third Vice-President, *Stirling* Consolidated Boiler Co., Barberton, O.

SNOW, ELLIOT, Naval Constructor, U. S. N.,
Navy Yard, Boston, Mass.

SOLIANI, NABOR, Direxione, del Cantiere Navale,
Gio Ansaldo & C., Sestri Ponente, Italy.

SPANGLER, HENRY W., Prof. Dynamic Engineering,
University of Pennsylvania, Philadelphia, Pa.

SPEAR, LAWRENCE, Vice-President, Electric Boat Co.,
Quincy, Mass.

SPERRY, AUSTIN, Naval Architect, Main Street Iron
Works, 131 Main street, San Francisco, Cal.

STAHL, A. W., Naval Constructor, U. S. N., Supt'g
Constr. Newport News S. B. & D. D. Co.,
Newport News, Va.

STEARNS, WILLIAM B., Naval Architect, Marblehead, Mass.

STEVENS, JOHN A., Chief Engineer,
Union Iron Works, San Francisco, Cal.

STILLMAN, FRANCIS HILL, President, The Watson-
Stillman Co., 46 Dey street, New York, N. Y.

STOCKER, ROBERT, Naval Constructor, U. S. N.,
Navy Yard, Norfolk, Va.

STRATTON, E. PLATT, Chief Engineer-Surveyor,
American Bureau of Shipping,
66 & 70 Beaver street, New York, N. Y.

STUART, SINCLAIR, Ship and Engine Surveyor,
16-18 Exchange Place, New York, N. Y.

SUGITANI, YASNICHI, Ship Yard Manager,
Mitsu Bishi Dock Yards & Engine Works,
Nagasaki, Japan.

SWAN, JAMES, New York Shipbuilding Co., Camden, N. J.

SWENSON, WILLIAM H. C., Managing Director,
Trondhjems Shipbuilding and Engineering Co.,
Trondhjems, Norway.

SYLVEN, WALFRID, Supt. Eng. Marine Construction,
U. S. Lighthouse Service,
Light House Board, Washington, D. C.



T

TANDY, FRANK N., Marine Agent,
202 California st., San Francisco, Cal.
TAWRESEY, JOHN G., Naval Constructor, U. S. N.,
Superintending Constructor, Union Iron Works,
San Francisco, Cal.
TAYLOR, DAVID W., Naval Constructor, U. S. N.,
Bureau Construction and Repair, Navy Dept.,
Washington, D. C.
TAYLOR, STEVENSON, Vice-President, Quintard Iron
Works, Foot of East 12th Street, New York.
THAYER, IGNATIUS E., Naval Architect and Marine
Engineer, 28 California street, San Francisco, Cal.
THAYER, JR., HORACE HOLDEN, Chief Hull Draftsman,
The Pusey & Jones, Wilmington, Del.
THAYER, CHARLES H., Draughtsman,
Office of Suptg. Constructor, Newport News
S. B. & D. D. Co., Newport News, Va.
THOMAS, CARL CLAPP, Prof. Marine Engineering,
Cornell University, Ithaca, N. Y.
THOMPSON, ARTHUR WELLINGTON,
Mariners Harbor, Staten Island.
THOMPSON, JAMES A.,
1030 Cauldwell avenue, Bronx, N. Y.
TOBEY, WILLIAM L., Mechanical Engineer, Lockwood
Mfg. Co., 85 Sumner street, East Boston, Mass.
TOBIN, J. A., Past Asst. Engineer, U. S. N. (retired),
32 Vine street, East Providence, R. I.
TODD, WILLIAM HENRY, General Superintendent,
John N. Robins Co., Erie Basin, Brooklyn.
House, Hotel St. George, Brooklyn.
TORREY, JOHN D., Draughtsman, Bureau C. & R.,
Navy Dept., Washington, D. C.
TOWNE, N. P., Chief Engineer, Wm. Cramp & Son's
Ship and Engine Building Co., Philadelphia.



TROWBRIDGE, AMASA, Adjunct Professor, Mechanical Engineering, Columbia University, New York.
TUSKA, GUSTAVE, R., Consulting Engineer, 62 William street, New York, N. Y.

U

UBSDELL, JOHN A., Great Lakes Engineering Works, Detroit, Mich.

V

VAN BUREN, JOHN, D., Newburgh, N. Y.
VAN VLECK, FRANK, Bureau of S. E., Navy Dept., Washington, D. C.
VARNEY, WILLIAM H., Naval Constructor, U. S. N., (retired), 712 N. Carey street, Baltimore, Md.
VARNEY, WILLIAM W., Mechanical Eng., Attorney-at-Law, 710 N. Carey street, Baltimore, Md.
VOLLMANN, CARL WILHELM, President, Linde British Refrigeration Co., 301 St. James street, Montreal, Can.
VOLZ, WILLIAM E., Mechanical Engineer, Wheeler Condenser & Eng. Co., 42 Broadway, New York.

W

WADDINGTON, JAMES F., Draughtsman, The Wm. Cramp & Sons S. & E. B. Co., Philadelphia, Pa House, Riverton, N. J.
WALKER, LOUIS W., Chief Hull Draughtsman, P. R. R. Floating Dept., Care Supt. M. P. P. R. R. Co., Jersey City, N. J.
WALKER, PERLEY F., Prof. of Mechanical Engineering, University of Kansas, Lawrence, Kan.
WALLACE, JAMES C., President, American Shipbuilding Company, Cleveland, Ohio.
WALLACE, W. CARLILE, Marine and Consulting Engineer, care of John Brown & Co., Ltd., 22 Thames street, New York, N. Y.

WALLACE WILLIAM M., Computer, Bureau Construction and Repair, Navy Department, 616 18th street, N. W., Washington, D. C.

WALLEM, AXEL. B., Chief Draftsman, Engine Dept., N. Y. Shipbuilding Co., Camden, N. J.

WARD, CHARLES, Mechanical Engineer, Charleston, Kanawha Co., W. Va.

WARD, CHARLES EDWIN, Supt of Ward Engineering Works, Charleston, W. Va.

WARREN, BENJAMIN H., Alberene, Albemarle Co., Va.

WARREN, OGLE TAYLOR, Draughtsman, Great Lakes Eng. Works, Detroit, Mich.

WARRINGTON, JAMES N., Mechanical Engineer, Honolulu, Hawaii.

WATERS, J. W. LOWRY, 294 Carlton avenue, Brooklyn, N. Y.

WATT, RICHARD M., Naval Constructor, U. S. N., Superintending Constructor, Fore River Shipbuilding Co., Quincy, Mass.

WATTERSON, WILLIAM WALLACE, Superintendent of Construction, Pittsburg Steamship Co., Cleveland, O.

WATTS, PHILIP, Director of Naval Construction of the British Admiralty, 10 Chelsea Embankment, London, S. W., Eng.

WEAVER, WILLIAM D., Mechanical Engineer, 55 Demarest avenue, Englewood, N. J.

WEBB, J. BEAVOR, Naval Architect 129 Front street, New York, N. Y.

WEBB, THOMAS E., Naval Constructor, U. S. N., (retired), Port Washington, Nassau Co., N. Y.

WEED, GEORGE E., President, Morgan Iron Works, 811 East 9th street, New York., N. Y.

WELLENKAMP, HERMAN, Royal Marine Shipmaster, Wharf, Kiel, Germany.



WESTMACOTT, ALFRED, Managing Director, Westmacott, Stewart & Co., Ltd., St. Helens, Isle of Wight, Eng.

WETHERBEE, CHARLES PHELPS, Asst. Supt., Bath Iron Works, Bath, Maine.

WHEELER, CLIFTON HAROLD, C. H. Wheeler Condenser & Pump Co., Lehigh avenue and 18th street; residence, 521 Lincoln Drive, Pelham, Philadelphia.

WHEELER, FREDERICK M., Mechanical Engineer, 159 Gates avenue, Montclair, N. J.

WHEELER, HARRY, Suptg. Engineer, Lamport & Holt Line, Pier 8, Brooklyn, N. Y.

WHITAKER, MORRIS M., Editorial Staff, "The Motor Boat," 1133 Broadway, New York.

WHITHAM, JAY M., Mechanical Engineer, 607 Bullitt Building, Philadelphia, Pa.

WHITNEY, EDWIN H., Supt., Eddy Valve Co., P. O. Box 295, Waterford, N. Y.

WHITTELSEY, H. NEWTON, Williams, Whittelsey Co., Steinway, Long Island City, N. Y.

WILEY, CLARENCE W., Supt. Engineer, Boston Tow Boat Co., Box 202, Seattle, Wash.

WILKINSON, HENRI, Chief Surveyor, Bureau Veritas, 17 State street, New York, N. Y.

WILLARD, CHARLES FRANKLIN, Instructor of Marine Engineering, Massachusetts Institute of Technology, Boston, Mass

WILLIAMS, FAIRFAX, Naval Architect, "C-2" The Yale, 6th and Columbia streets, Seattle, Wash.

WILLIAMSON, JOHN D., JR., Manager, Williamson Bros., Aramingo ave. and Cumberland st., Philadelphia, Pa.

WILLIAMSON, WILLIAM C., Mechanical Engineer, Aramingo ave. and Cumberland st., Philadelphia, Pa.

WILSON, ANDREW G., Marine Dept., Maryland Steel Co., 71 Broadway, New Y[redacted]

WILSON, GEORGE HERBERT,
1323 G street, N. W., Washington, D. C.
WINANT, WM. E., Leading Draftsman, C. & R. Dept.,
Navy Yard, Brooklyn, N. Y.
WINSHIP, JAMES G., Mechanical Engineer and Salesman, Geo. F. Blake Mfg. Co., 114 Liberty st., N. Y.
Residence, 468 Greene avenue, Brooklyn, N. Y.
WINTRINGHAM, H. C., Naval Architect,
Hudson Building, 32 Broadway, New York, N. Y.
WOOD, ANDREW, Supt., Pacific Iron Works,
Bridgeport, Conn.
WOOD, SIDNEY L., Asst. Engineer, Newport News
S. B. & D. D. Co., 232 49th st., Newport News, Va.
WOOD, WILLIAM J., Naval Architect, Ship Surveyor
and Consulting Engineer, 921 Postal Telegraph
Building, 280 La Salle street, Chicago, Ill.
WOODWARD, JOSEPH J., Naval Constructor, U. S. N.,
Bureau of Construction and Repair, Navy
Department, Washington, D. C.
WOODY, WILLIAM HENRY, JR., C. P. T. Co., 95 Liberty
street, New York. 2818 E. Franklin street,
Richmond, Va.
WORTHINGTON, CHARLES C., Manwalamink, Shawnee-on-Delaware, Monroe Co., Pa.

Y

YAMAMOTO, NAGAKATO, Chief Draughtsman, Ship Dept.,
Mitsu Bishi Dock Yards & Engine Works,
Nagasaki, Japan.
YEOMANS, CLIFTON, Draughtsman,
Union Iron Works, San Francisco, Cal.
YOUNG, JAMES, Chief Draftsman, Hull Dept.,
N. Y. Shipbuilding Co., Camden, N. J.
YOUNG, PHILIP M., Chief Draughtsman,
Eng. Dept., N. Y. Shipbuilding Co., Camden, N. J
House, 1526 Arch street, Philadelphia, P



Z

ZAHM, FRANK BAKER, Naval Constructor, U. S. N.,
Bureau of C. & R., Navy Dept., Washington, D. C.
ZEITER, FRIEDRICH, Lecturer on Marine Engineering,
at Technikum, Bulowstr 22, Bremen, Germany.
ZIRPEL, RUDOLPH, Supt of Construction,
U. S. Light House Service,
House, 523 3d street, N. E. Washington, D. C.

ASSOCIATES

A

ACKMERMAN, CHARLES, Elizabeth, N. J.
ACKERMAN, WILLIAM W., Elizabeth, N. J.
ADAMS, ROGER P., Draughtsman, Newport News S. B. & D. D. Company, Newport News, Va.
ALDRICH, HERBERT L., President and Manager, Marine Engineering, Whitehall Building, 17 Battery Place, N. Y.
ALLAN, ERNEST A., Draughtsman, 97 Oak st., Bath, Maine.
ALLAND, KARL, E. W. Draughtsman, N. Y. Shipbuilding Company, Camden, N. J. House, 920 Penn street.
ALLEN, W. W., Consulting Engineer, Rooms 1307-8, 24 Broad street New York.
AMORY, JOHN J., President, Gas Engine & Power Co., and Charles C. Seabury Co., Consolidated, Morris Heights, N. Y.
ANCKER, WALTER, Supt. Floating Equipment, B. & O. R. R. Company, Camden Station, Baltimore Md.
ANDRESEN, ELLIOTT I. G., Asst. Manager, Holzapfel's Composition Co., 18 Broadway, New York.
ANDREWS, JACOB R., Hyde Windlass Co., Bath, Maine.
ARNOLD, CONWAY H., Captain, U. S. Navy, care Navy Dept., Washington, D. C.

B

BAILEY, JOHN E., Asst. Naval Constructor, U. S. Navy, Navy Yard, Pensacola, Fla.
BAILEY, W. H., Agent, American Tube Works, 20 Gold street, New York.
BALLS, WILLIAM H., Draughtsman, C. & R. Dept, Navy Yard, League Island, Pa.
BARBEY, HENRY G., Yacht Designer, 52 Pine street, New York, N. Y.



BARNES, A. T., Consulting Engineer, Sharon, Mass.
BARNES, W. H.,.
Room 256, Broad street Station, Philadlphia, Pa.
BARRE, JOSEPH, of Jos. Barre & Co.,
25 Fulton street, New York, N. Y.
BATES, GEORGE HAROLD, Chief Engineer,
Burlee Dry Dock Co., Port Richmond, S. I.
BATTIN, THOMAS WILSON, P. O. Box 2074, Philadelphia, Pa.
BENT, FELTON, Supt., Solid Steel Casting Co.,
Chester, Overbrook, Pa.
BENT, STEDMAN, Purchasing Agent, Maryland Steel
Co., 306-311 Girard Building, Philadelphia,
House, Overbrook, Pa.
BICKFORD, ROBERT G., General Counsel, Newport
News S. B. & D. D. Co., Newport News, Va.
BISSET, GUY ALOYSIUS, Asst. Naval Constructor,
U. S. N., Newport News S. B. & D. D. Co.,
Newport News, Va.
BLISS, JOHN LORD, John Bliss & Co., Manufacturer
of Marine Chronometers and Nautical
Instruments, 128 Front street, New York.
BLOMBERG, CARL A., Marine Engineer, The Wm.
Cramp & Sons' S. & B. E. Co., Philadelphia, Pa.
BLOOMSBURG, HARRY BROWN, Draughtsman,
Baltimore Shipbuilding and Dry Dock Co.,
House address, 425 N. Marey street, Baltimore, Md.
BOAS, EMIL L., General Manager, Hamburg-
American Line, 37 Broadway, New York, N. Y.
BORIE, ADOLPHE E., Vice-President,
Bethlehem Steel Co., So. Bethlehem, Pa.
BOUCHER, HORACE E., Mechanical and Model Shops,
105 Maiden Lane, New York.
BOUTAKOFF, ALEXANDER G., Commander,
Imperial Russian Navy, Naval Attache,
Russian Embassy, Washington, D. C.



BOWES, JR., THOMAS D., M. E. Scientific Dept.,
N. Y. Shipbuilding Co., Camden, N. J.
BOYD, ROBERT JOHN, Draughtsman, U. S. N.,
C. & R. Dept., Navy Yard,
House, 39 Lincoln avenue, Portsmouth, N. H.
BOYD, WILLIAM, Second Leading Draughtsman,
Cramps' Shipyard, Philadelphia.
BRADFIELD, GEORGE K., Sales and Technical Dept.,
Vacuum Oil Co., 29 Broadway, New York.
House, Hackensack, N. J.
BRILL, PHILIP B., Calculating Draughtsman,
Bu. C. & R., Navy Dept., Washington, D. C.
BRINTON, FREDERICK S., Constructor, Marine Construction and Dry Dock Co., Mariner's Harbor, N. Y.
BROWN, WILLIAM L., Pickands, Brown & Co.,
The Rookery Building, Chicago, Ill.
BROWN, WILSON, 16 South Elliott Place, Brooklyn, N. Y.
BROWNSON, WILLARD H., Rear Admiral, Navy Dept.,
BRUTON, JOHN F., Washington, D. C.
Care of Fore River Shipbuilding Co., Quincy, Mass.
BRYAN, HENRY F., Lieut. Commander U. S. N.,
"U. S. S. Alabama," Address: Care Navy
Dept., Washington, D. C.
BUCKELEW, CHARLES WILLIAM, Ship Designer,
126 W. 5th street, Plainfield, N. J.
BUCKINGHAM, BENJAMIN H., Licutenant-Commander,
U. S. N. (retired), Cornwall, Pa.
BURNHAM, JOHN W., Chief Carpenter, U. S. N.,
C. & R. Department, Navy Yard, Brooklyn, N. Y.
BURTON, HERBERT, Draughtsman, Gas Engine & Power
Company, Morris Heights, New York
BUTTS, CHARLES SPOONER, Draughtsman,
C. & R. Dept., Navy Yard, Brooklyn, N. Y.

C

CARROLL, ROYAL PHELPS, Yachtsman,
York, N. Y.



CASSATT, ALEXANDER J., Broad Street Station, Philadelphia, Pa.

CAVERLY, LEROY EUGENE, Hull Draughtsman, Union Iron Works, San Francisco, Cal.

CHAMBERS, WASHINGTON I., Commander, U. S. Navy, Navy Dept., Washington, D. C.

CHANDLER, LLOYD HORWITZ, Lieutenant Commander, U. S. N., Bureau of Ordnance, Navy Dept., House, 2144 California Avenue (T Street) N. W., Washington, D. C.

CHASE, JOHN P., Draughtsman, Everett, Mass.

CHURCH, EDWIN F., JR., Box 622, Morganstown, W. Va.

CHURCH, WM. CONANT, Editor, Army and Navy Journal, 99 Nassau street, New York, N. Y.

CLIFFORD, JAMES A., Electrical Engineer and General Salesman, B. F. Sturtevant Co., Jamaica Plain, Boston, Mass.

CLYDE, THOMAS, Ship Owner, 19 State street, New York, N. Y.

CLYDE, WILLIAM P., Ship Owner, 19 State street, New York, N. Y.

COATES, JOHN WESLEY, Warrant Machinist, U. S. N., U. S. S. Denver. Care of Postmaster, N. Y.

COLE, WINTHROP, Draughtsman, Bureau of S. E., Navy Dept., Washington, D. C.

COX, DANIEL, Draughtsman, Hull Department, The Neafie & Levy S. & E. B. Co., Philadelphia, Pa.

CRAIG, JOSEPH E., Rear-Admiral, U. S. N., Navy Yard, League Island, Pa.

CRANE ALEXIS, New York Manager and Special Expert *Ship Equipment*, Art Metal Construction Co., 346 Broadway, New York, N. Y.

CRANE, CLINTON H., Care Tams, Lemoine & Crane, 52 Pine street, New York, N. Y.

COX, LEONARD MARTIN, Civil Engineer, N. S. N., Bureau of Yards and Docks, Navy Dept., Washington, D. C.

CROSS, FRANK H., Draughtsman, 151 East 21st street, New York, N. Y.

CUSHING, NICHOLAS, Care United States Shipbuilding Company, 41-43 Cedar street, New York, N. Y.

D

DALTON, HENRY G., Managing Partner, Pickands, Mather & Co., Western Reserve Bldg., Cleveland, O.

DAVIDS, WILLIAM CULVER, Mechanical and Constructing Engineer, 242 Donaldson avenue, Rutherford, New Jersey.

DELIN, KARL, ERIC, Draughtsman, 470 Morris avenue, Elizabeth, N. J.

DEMING, RICHARD, Care United States Shipbuilding Co., 41-43 Cedar street, New York, N. Y.

DENISE, EDWIN S., Marine Dept., Deane Steam Pump Co., 133 Liberty street, New York, N. Y.

DICK, THOMAS B., 634 York st., Vallejo, Solano Co., Cal.

DICKIE, JAMES SPIERS, Draughtsman, Transport Service, San Mateo, Cal.

DIMOCK, WM. DE WOLF, Agent, New York Shipbuilding Co., 1 Broadway, New York.

DOCK, HERMAN, Mechanical Engineer, Wyncote, Pa.

DOLAN, THOMAS, Director, Wm. Cramp & Sons' S. & E. B. Co., U. G. I. Building, Philadelphia, Pa.

DOMBAUGH, HARRY M., Commander, U. S. N., Naval War College, Newport, R. I.

DONALDSON, HENRY F., Flatiron Bldg., Madison Square, New York, N. Y.

DONOVAN, RICHARD J., Chief Draughtsman, *Columbia* Iron Works, St. Clair, Michigan

DOWNEY, WALLACE, Townsend-Downey *Shipbuilding* Co., Shooter's Island, N.

DRAKE, FRANKLYN J., Captain, U. S. N.,
U. S. S. "Wisconsin," Asiatic Station,
Care Postmaster, San Francisco, Cal.
DUBOSE, WILLIAM GUNNELL, Assistant Naval
Constructor, U. S. N., Naval Station, Cavite, P. I.
DUNCAN, WM. B., JR.,
Havemeyer Bldg., Cortlandt st., New York, N. Y.
DUNTLEY, JOHN WHEELER, President, Chicago Pneumatic Tool Co., 1019 Fisher Building, Chicago, Ill.

E

EATON, JAMES W., General Manager and Treasurer,
New York Kerosene Oil Engine Co.,
31 Burling Slip, New York, N. Y.
ECKERT, LOUIS,
Fore River Shipbuilding Co., Quincy, Mass.
EGGERT, ERNEST FREDERICK, Assistant Naval
Constructor, U. S. N., N. Y. Shipbuilding Co.,
Camden, N. J.
ELMQUIST, E., Naval Constructor, Swedish Navy,
Carlskrona, Sweden,
ETTER, HARRY B., Designing Draughtsman,
Wm. Cramp & Sons' S. & E. B. Co.,
2326 N. 17th street, Philadelphia, Pa.
EVANS, ROBLEY, D., Rear-Admiral, U. S. N.,
324 Indiana avenue, Washington, D. C.

F

FARRINGTON, W. C., Manager, Southern Pacific Co.,
Pier 25 N. R., New York
FERGUSON, JR., WILLIAM BURDER, Assistant Naval
Constructor, U. S. N., Navy Yard, New York.
PFISTER, CARLE ERMANUS, Lieutenant, Royal Italian
Navy, Naval Attache to the Italian Embassy,
Washington, D. C.
FIELD, EDWARD P., Naval Architect and Engineer,
Maritime Building, New York, N. Y.



FROST, ELIHU B., Treasurer and Manager, Electric Boat Co., 11 Pine street, New York, N. Y.
FURER, JULIUS AUGUSTUS, Assistant Naval Constructor, N. S. N., Navy Yard, New York.

G

GANTT, HENRY L., Mechanical Engineer, 65 Summit street, Pawtucket, R. I.
GARDINER, GEORGE N., 15 William st., New York, N. Y.
GARDINER, GEORGE N., JR., Member of George N. Gardiner & Son, 15 William st., New York, N. Y.
GARTLEY, ALONZO, General Manager, Hawaiian Electric Company, Honolulu, H. I.
GAUSE, JOHN RODNEY, 1 Broadway, New York.
GILLIS, JAMES H., Commodore, U. S. N. (retired), Melbourne Beach, Fla.
GOODRICH, ALBERT W., President Goodrich Transportation Co., Foot of Michigan avenue Chicago, Ill.
GOULDER, HARVEY D., Proctor in Admiralty, 816 Perry-Payne Building, Cleveland, O.
GREENE, S. CUYLER, Draughtsman, Hyde Windlass Co., P. O. Box 1015, Bath, Me.
GRIFFIN, EUGENE, Vice-President, General Electric Co., 44 Broad street, New York, N. Y.
GRISCOM, CLEMENT A., JR., 5 Nassau st., New York, N. Y.
GRISCOM, RODMAN E., Land Title Bldg., Philadelphia, Pa.
GROVE, HENRY S., President, The Wm. Cramp & Sons S. & E. B. Co., Philadelphia, Pa.
GUILLAUDUE, WILLIAM LEGGETT, President and General Manager, Old Dominion Steamship Co., 81 to 85 Beach street, New York.

H

HAGSTROM, O. P., Leading Draughtsman, *Newport News* S. B. & D. D. Co., P. O. Box 628, Newport News, Va.



HALL, FRANK DAVID, Assistant Naval Constructor, U. S. N., Assistant to the Superintending Constructor, Cramps Shipyard, Philadelphia.

HANSCOM, ISAIAH CLIFFORD, Draughtsman, Navy Yard, Portsmauth, N. H.

HEBBINGHAUS, HANS GEORG, Commander, Imperial German Navy,, Naval Attache, German Embassy, Washington, D. C.

HEDSTROM, BERNARD, Hull Draughtsman, N. Y. Shipbuilding Co., Camden, N. J.

HENRY, SIDNEY MORGAN, Assistant Naval Constructor, U. S. N., Navy Yard, Mare Island, Cal.

HENRY, WILLIAM P., 204 West 55th st., New York, N. Y.

HEPBURN, FREDERIC, Passaic, N. J.

HERRIMAN, HORATIO NELSON, Surveyor to Great Lakes Register & Bureau Neritas, Cleveland, O.

HILL, EBENEZER, Norwalk Iron Works Co., S. Norwalk, Conn.

HILKEN, PAUL GERHARD L., 133 West Lanoole street, Baltimore, Md.

HIRSCH, FEODOR C., President, N. Y. Kerosene Oil Engine Co., 31 Burling Slip, New York, N. Y.

HOOPER, LOUIS MOSHER, Engineer, and Mechanical Expert, J. L. Mott Iron Works, 90 Beekman street, New York, N. Y.

HOUSTON, CHARLES E., Draughtsman, Neafie & Levy S. & E. B. Co., Philadelphia, Pa.

HUGHES, ALEXANDER, Asst. Draughtsman, Navy Yard, Norfolk, 623 Jefferson street, Portsmouth, Va.

HUGHES, CHARLES HAYNES, Contracting Engineer, 904 Spruce street, Philadelphia, Pa.

HUMMEL, HOWARD H., 222 High street, Canton, Ohio.

HYDE, JOHN S., Bath Iron Works, Bath, Me.

I

IRELAND, ROBERT L., M. A. Hanna & Co.,
Cleveland, O.
IRVING, WASHINGTON, 200 Pine st., San Francisco, Cal.

J

JACKSON, WM. ELBERT, Draughtsman,
C. & R. Dept., Navy Yard, Brooklyn, New York.
JONES, FRANK BOWNE, Yacht Agent and Ship Broker,
29 Broadway, New York.
JOY, RICHARD P.,
Rooms 1 to 6 Newberry Building, Detroit, Mich.
JUPP, ALFRED, J., Agent, The Lukenheimer Co.,
26 Cortlandt street, New York, N. Y.

K

KANE, JOHN F., Shipfitter,
72 Meserole avenue, Brooklyn, N. Y.
KATZENSTEIN, JACOB, Supt., L. Katzenstein & Co.,
358 West street, New York, N. Y.
KATZENSTEIN, MARTIN L., Manager, Marine Dept.,
International Steam Pump Co.,
144 Liberty street, New York.
KEILHOLTZ, P. O., Sec'y and Supt.,
The United Electric Light and Power Co.,
Merchant's Bank Building, Baltimore, Md.
KELLER, OTTO B., with Keuffel & Esser Co.,
56 Manhattan avenue, New York, N. Y.
KELLOGG, JAMES W., Manager Marine Sales, General
Electric Co., 10 Front street, Schenectady, N. Y.
KEMBLE, PARKER H., Consulting Engineer,
439 Albany street, Boston, Mass.
KEMPFF, LOUIS, Rear-Admiral, U. S. N. (retired),
U. S. Navy Pay Office, San Francisco, Cal.
KIRCHOFF, C., Editor Iron Age,
232-238 William street, New York, N. Y.



L

LAMSON, PHILIP, Draughtsman, Hull Department,
Newport News S. B. & D. D. Co., Newport News, Va.
LANGWELL, CHARLES J., Estimator,
The Harlan and Hollingsworth Co., Wilmington, Del.
LARKIN, FRANK PROVOOST, Draughtsman, Engineering
Department, Newport News S. B. & D. D. Co.,
also 224 49th street, Newport News, Va.
LAWLEY, ARTHUR C., Draughtsman,
Geo. Lawley & Son Corp., 60 N st., So. Boston, Mass.
LAWRENCE, GEORGE E., Ship Draughtsman,
Wm. Cramp & Sons S. & E. B. Co., Philadelphia, Pa.
LAWTON, NEWBURY, D., 40 Wall street, New York, N. Y.
LINDSAY, JAMES G., SR. Member of James G.
Lindsay & Co., Arcade Building, Philadelphia, Pa.
LITTLEFIELD, CHARLES EDWIN, Navigator,
School Ship "St. Mary's," Ft. E. 24th street, N. Y.
LONGSTRETH, CHARLES, Vice-President, U. S. Metallic
Packing Co., 427 N. 13th street, Philadelphia, Pa.
LORD, FREDERICK KISSAM, Draughtsman,
105 Lord avenue, Bayonne, N. J.
LORD, JOHN A., Bath Iron Works, Bath, Me.
LOVELL, LEANDER N., of Borden & Lovell,
17 Battery Place, New York, N. Y.
LUNDIN, ANDREAS, P., Pacific Mail Steamship Company,
San Francisco, Cal.
LYNN, JAMES J., Marine Salesman,
General Electric Co. and Shelby Tube Co.,
4 Butler street, Port Huron, Mich.

M

MABRY, CURTIS DARLING, Hull and Calculating
draughtsman, Wm. Gardner,
1 Broadway, New York,
House, 226 West Lincoln ave., Mount Vernon, N. Y.

MAGOUN, F. P.
Atlas National Bank Building, Cincinnati, Ohio.
MARTIN, JULIUS, Master Electrician,
Equipment Dept., Navy Yard, Brooklyn, N. Y.
House Address, 445 West 21st St., New York.
MASON, LEWIS ALBERT, Draughtsman,
504 N. Henry street, West Bay City, Mich.
MASON, NEWTON E., Rear-Admiral, U. S. N.,
Chief of the Bureau of Ordnance,
Navy Department, Washington, D. C.
MATHEWSON, THOMAS S., Vice-Pres., and Mgr.
Marine Machine and Conveying Co.,
318 Broadway, New York, N. Y.
McCREERY, JOSEPH, Senior Member, Joseph McCreery
& Son, Infirmary Road, Toledo, Ohio.
McENTEE, WILLIAM, Assistant Naval Constructor,
U. S. N., Navy Yard, Mare Island, Cal.
McGOWAN, WM. CULLEN, Asst. Draughtsman,
Dept. of C. & R., Navy Yard, Pensacola, Fla.
McGUIRE, JAMES C., Consulting Engineer
1410 Havemeyer Bldg., 26 Cortlandt st.,
New York, N. Y.
McILVAIN, EDWARD, M., President,
Bethlehem Steel Co., South Bethlehem, Pa.
McINTYRE, EDWARD, McIntyre & Henderson, Ship-
builders, Ft. of Montgomery street, Baltimore, Md.
McKAY, GEORGE THEODORE, Stearns & McKay, Naval
Architects and Yacht Builders,
Marblehead, Mass.
McLEAN, THOMAS, C., Captain, U. S. N.,
care of Navy Dept., Washington, D. C.
McMILLAN, GILBERT N., Gorham, H. H.
McQUESTEN, FRED, Vice-President, The George
McQuesten Company, 27 Kilby st., Boston, Mass.
McQUILKIN, GEORGE, JR., Electrical Expert,
U. S. N., Elkton, Md.



MEEK, JOHN E., Care The H. W. Johns-Manville Co.,
100 William street, New York, N. Y.
MEEK, WENTWORTH W., Naval Architect,
P. O. Box 1132, Bath, Maine.
MEIGS, JOHN F., Engineer of Ordnance,
Bethlehem Steel Co., South Bethlehem, Pa.
MILLARD, WALTER HENRY, Naval Architect,
32 Broadway, New York, N. Y.
MILLER, JACOB W., President, Providence and Stonington S. S. Co., Pier 19, North River, New York.
MILLER, THOMAS I., Captain,
475 East 29th street, Brooklyn, N. Y.
MILLS, ISAAC BONNEY, Naval Architect,
15 Exchange street, Boston, Mass.
MITCHELL, JOHN, Vessel Owner,
Mitchell & Co., Rockefeller Building, Cleveland, O.
MINUSE, ALFRED WYNN, Webb's Academy,
Fordham Heights, New York, N. Y.
MOORE, HARRISON, B., President N. Y. Lighterage and Transportation Co., 26 Broadway, New York, N. Y.
MORGAN, EDWIN D.,
100 Broadway, P. O. Box 706, New York, N. Y.
MULROONEY, JOHN M., Great Lakes Register, Inc.,
Cleveland, O.

N

NEW, HARRY STEWART, Draughtsman,
353 Webster avenue, Long Island City, N. Y.
NEWBERRY, TRUMAN H., Assistant Secretary of the Navy, Washington, D. C.
NIBLACK, ALBERT P., Lieut-Commander, U. S. N.,
Naval Station, Honolulu, Hawaii.
NILES, MARSTON, 149 Broadway, New York, N. Y.
NOLAN, JOHN J.,
Fore River Shipbuilding Co., Quincy, Mass.

NORTON, HAROLD F., Draughtsman, U. S. N.,
Newport News S. B. & D. D. Co.,
P. O. Box 702, Newport News, Va.

O

O'BRIEN, EDWARD C., President and General Manager,
Cuban and Pan-American Express Co.,
62 Broadway, New York, N. Y.
O'CONNOR, BERNARD F.,
3 Washington avenue, Brooklyn, N. Y.
ORCUTT, CALVIN, B., Prest. Newport News Shipbuilding and Dry Dock Co., 1 Broadway,
New York, N. Y.

P

PAINE, CECIL E., Engineer,
Hyde Windlass Co., Bath, Maine.
PATTISON, HUGH, care of Westinghouse-Church-
Kerr & Co., 10 Bridge street, N. Y.
PENDLETON, F. S., Manager, Pendleton Bros.,
Shipbuilders, Belfast, Me.
PERKINS, EDWIN ALAN, Naval Architect and
Engineer, 8-10 Bridge street, New York, N. Y.
PETERSON, OTTO L., 1 Broadway, New York, N. Y.
PETRE, AXEL E., General Manager,
Midvale Steel Co.. Philadelphia, Pa.
PFISTER, CARLE ERMANUS, Lieutenant, Royal Italian
Navy, Naval Attache to the Italian Embassy,
Washington, D. C.
PHILLIPS, WILLIAM H., Manager, Marine Department,
F. W. Devoe & C. T. Reynolds Co.,
101 Fulton street, New York, N. Y
PIERCE, WALTER LOUIS, Secy. and Gen. Manager,
Lidgerwood Manfg. Co., 96 Liberty street,
New York, N.
POMEROY, L. R., Care General Electric Co.,
44 Broad street, New York, N.

POTTER, AUSTIN EVERETT, Consulting Marine Gasolene Engineer, Editor of "Power Boat News," 9 Murray street, New York.

POWELSON, WILFRID VAN NESS, Manager, St. Louis Electric & Power Co., St. Louis, Mo.

R

RANDLE, WILLIAM GEORGE, Superintendent, New York Shipbuilding Co., Camden, N. J. House, Chester, Pa.

RAVEN, ANTON A., President, American Bureau Shipping and Atlantic Mutual Insurance Co., 51 Wall street, New York, N. Y.

RAYMOND, CHARLES H., Mutual Life Insurance Co., 26 Liberty street, P. O. Box 37, New York, N. Y.

RAYMOND, JAMES RICHARDSON, Raymond Releasing Hook, Room 1017 State street, New York.

REA, SAMUEL, Fourth Vice-Pres., Pennsylvania R. R. Room 223, Broad street Station, Philadelphia, Pa.

REED, HENRY S., 12 West 31st street, New York, N. Y.

RICE, HENRY, Naval Architect and Consulting Engineer, 202 Main street, Buffalo, N. Y.

RICHARDSON, EUGENE M., Vice-Pres., Sherwin-Williams Co., Cleveland, O.

ROACH, STEPHEN, W., Manager, Morgan Iron Works, Foot of East 9th street, New York, N. Y.

ROBBINS, ROWLAND A., President, Manhattan Supply Co., 127 Franklin street, New York.

ROGERS, WALTER H., Draughtsman, Hull Construction, Hull Construction, Wm. Cramp & Sons S. & E. B. Co., Philadelphia, Pa.

ROSS, CHARLES, E., Engineer, 17 State street, New York, N. Y.

ROSSOW, ERNEST FREDERICK, Draughtsman, C. & R. Dept., Navy Yard, Mare Island, 908 York street, Vallejo, Cal.

ROWEN, JOHN H., Lieutenant, U. S. N.,
Asst. to Inspector of Machinery for U. S. S.
"Rhode Island,"
Fore River Shipbuilding Co., Quincy, Mass.

S

SABIN, ALVAH HORTON,
432 Sanford avenue, Flushing, N. Y.
SATTERLEE, HERBERT L., Late Lieutenant, U. S. N.,
120 Broadway, New York, N. Y.
SAUNDERS, HERBERT B., Marine Surveyor and
Appraiser, 15 Whitehall street, New York.
SCHOOLER, CLIFFORD VANNICE, Asst. Draughtsman,
Navy Yard, Norfolk,
511 County street, Portsmouth, Va.
SCHREIDT, FRANK, President,
Safety Cylinder Valve Co., Mansfield, Ohio.
SCHRIENER, WATSON, C., Draughtsman,
New York Shipbuilding Co., Camden, N. J.
Residence, 1829 N. 12th street, Philadelphia, Pa.
SCOTT, FRANK,
Crosby Steam Gauge & Valve Co., 16 Dey street,
SCOTT, HENRY T., New York.
Room 45, Crocker Building, San Francisco, Cal.
SEBREE, URIEL, Captain, U. S. N.,
Naval Secretary, Light House Board,
Dept. of Commerce and Labor, Washington, D. C.
SHACKFORD, WILLIAM GARDNER,
Retired Shipmaster, So. Orange, N. J.
SHOEMAKER, WILLIAM R., Lieutenant-Commander,
U. S. N., Navy Dept., Washington, D. C.
SHIELDS, HENRY B., Draughtsman,
Office of the Superintending Constructor,
*New York Ship*building Company, Camden, N. J.
SMITH, ALEXANDER R., Pelham, N. Y.



SMITH, ALFRED G., Sec.-Treas., N. Y. and Cuba Mail Steamship Co., 90 Wall street, New York, N. Y.

SMITH, HAYDEN HOBART, Manager, Marine Dept., The Thresher Electric Co., Room 905, 17 Battery Place, New York, N. Y.

SMITH, TOWNSEND, J., Hull Draughtsman, T. S. Marvel & Co., Newburgh, N. Y.

SNYDER, HENRY S., Secretary-Treasurer, Bethlehem Steel Co., So. Bethlehem, Pa.

SPEAKMAN, EDWARD M., Consulting Engineer and Naval Architect, Knutsford, Cheshire, England.

SPRAGUE, F. J., Technical Director, Sprague Electric Co., 527 West 34th street, New York, N. Y.

STANTON, SAMUEL WARD, Publisher, *Nautical Gazette*, 156 Fifth avenue, New York, N. Y.

STARKE, FREDERICK C., 173 25th street, Milwaukee, Wis.

STEPHENS, WILLIAM P., Editor, *Forest and Stream*, 32d street and Avenue A, Bayonne, N. J.

STOKES, ANSON PHELPS, 100 William street, New York.

SWANTON, HENRY AIKEN, Draughtsman, 1 Regent street, Boston, Mass.

T

TAFT, HARRISON, 36 West 37th street, New York.

TAMS, J. FREDERIC, Ship Broker and Marine Contractor, 52 Pine street, also 4 Lexington ave., New York, N. Y.

THRESHER, ALFRED ADDISON, Proprietor, Thresher Electric Co., Dayton, Ohio.

TOCH, HENRY M., Manufacturer of Marine Cements and Ship Bottom Paints, 320 Fifth avenue, New York, N. Y.

TODT, EDWARD GEORGE, Vice-President and General Manager, Gunnell Machine Co., Manitowoc, Wis.

TOWNSEND, GEORGE RICHARDS, Mechanical and Marine Engineer and Naval Architect, Power and Mining Machinery Company, Cudahy, Wis.

TUCK, EDWARD G., Foreman in charge of Mold Loft, Eastern Shipbuilding Co., New London, Conn.

TURNER, LOUIS HORATIO, Surveyor, Bureau Veritas, San Francisco, Cal.

V

VANDERTOORN, WILLEN H., Holland-American Line, Rotterdam, Holland.

VANDERBILT, AARON, Vice-President, Wheeler Condenser & Engineering Co., 42 Broadway, New York, N. Y.

VAN DUZER, LOUIS S., Lieutenant-Comdr., U. S. N., care of Navy Dept., Washington, D. C.

VEIT, RICHARD C., . 26 Broadway, New York, N. Y.

VREELAND, CHARLES EDWARD, Commander, U. S. N., 808 Mills Building, Washington, D. C.

W

WALES, CHARLES M., 11 Broadway, New York, N. Y.

WATERS, GEORGE HENRY, Secretary, F. A. Verdon Co., West New Brighton, S. I., N. Y.

WATTS, HENRY C., President, International Smokeless Powder and Chemical Co., 850 Drexel Building, Philadelphia, Pa.

WEINZ, CHARLES J., 247 West 123d st., New York, N. Y.

WELLS, ROGER, JR., Lieut.-Commander, U. S. Navy, care Navy Dept., Washington, D. C.

WEST, CHARLES CAMERON, Manager, Manitowoc Dry Dock Co., Manitowoc, Wis.

WEST, GORDON B., 65 Myrtle avenue, Brooklyn, N. Y.

WHITE, WILLIAM P., Lieut. Commander, U. S. N., Care Navy Dept., Washington, D. C.



WHITE, GEORGE A., Asst. to Genl. Manager, Hudson River Day Line, Desbrosses Street Pier New York.

WHITON, CHAUNCEY GILBERT, Treasurer and Agent, The New Bedford, Martha's Vineyard and Nantucket Steamboat Co., P. O. Box 284, 7 Commercial street, New Bedford, Mass

WIERDSMA, JOHN R., Netherlands Steam Navigation Co., 39 Broadway, New York, N. Y.

WILLIAMS, HENRY, Asst. Naval Constructor, U. S. N., Newport News Shipbuilding & Dry Dock Co., Newport News, Va.

WILSON, GEORGE P., 1202 Land Title Bldg., Philadelphia, Pa.

WISE, WILLIAM C., Rear-Admiral, U. S. N. (retired), Navy Dept., Washington, D. C.

WITT, OSCAR FREDRIK, Hull Draughtsman, Newport News S. B. & D. D. Co., Newport News, Va.

WOLVIN, AUGUST B., Gen. Mgr., American S. S. Co. 303 Board of Trade Duluth, Minn.

WOOD, DAVID, Draughtsman, C. & R. Dept., Navy Yard, New York.

WOOD, HOWARD, 1016 Spruce street, Philadelphia, Pa., or Conshohocken, Pa.

WOODS, ALLEN D., Marine Engineer, C. R. R. of N. J., Jersey City, N. J.

WOODWARD, CLARK HOWELL, Ensign, U. S. N., Navy Department, Washington, D. C.

WRIGHT, ROBERT KEMP, P. O. Box 390, Caracas, Venezuela,

WRIGHT, WILLIAM LLOYD, Draughtsman, *Bureau of* C. & R., Navy Dept., Washington, D. C. House, 1908 G street, N. W.

[redacted]

Z

ZETTERMAN, AXEL E., Marine Engine and Boiler Draughtsman, Fore River Shipbuilding Co., Quincy, Mass.



JUNIORS

A

ANDERSON, ROBERT EARLE, C. E., Draughtsman,
Dept. of C. & R., Navy Yard, New York.

B

BACON, HENRY DOUGLASS, Asst. to General Foreman,
New York Shipbuilding Co., Camden, N. J.
P. O. Riverton, N. J.

BAILEY, DANIEL, Ship Draughtsman, C. & R. Dept.,
Navy Yard, Brooklyn, N. Y.

BAILEY, ROBERT W., Ship Draughtsman, C. & R. Dept.,
Navy Yard, Brooklyn, N. Y.

BAUM, ARTHUR ELMO, Draughtsman, Hull Dept.,
Bath Iron Works, 95 Union street, Bath, Me.

BERLINER, RICHARD W., care V. J. Hedden & Sons Co.,
8 Colborne street, Toronto Canada.

BIMSON, JAMES A., Draughtsman, Engineering Dept.,
Bath Iron Works, Bath, Me.

BINLEY, WM. JR., Leading Ship Draughtsman,
Navy Yard, New York.

BOWEN, ALMON F., Draughtsman, Newport News
S. B. & D. D. Co., Newport News, Va.

BOYD, STEPHEN B., Ship Draughtsman,
C. &. R. Dept., Navy Yard, Boston,
20 Holden street, Malden, Mass.

BRAGG, ROSS W., Draughtsman,
N. Y. Shipbuilding Co., Camden, N. J.

BRETTEVILLE, ALEXANDER DE, Manager Main St.
Iron Works, 131 Main street, San Francisco, Cal.

BRINER, EMIL AMANDUS, M. E.,
438 Queen Lane, Germantown, Pa.

BROOKS, LOUIS C., Master Electrician, C. & R. Dept.,
Navy Yard, Boston, Mass.

C

CASWELL, W. BENSON, Draughtsman,
269 W. 136th street, New York.
CHASE, ARTHUR WILLEY, Asst. Draughtsman, U. S. N.,
P. O. Box 36, 321 56th street, Newport News, Va.
CHRISTOPHERSEN, HERBERT HENSHAW,
7 Edgerton Terrace, East Orange, N. J.
CLARK, REUBEN B., Naval Architect,
E. H. Godshalk & Co., Philadelphia, Pa.
CLARY, JOSEPH W., Draughtsman, Bureau of C. & R.,
Navy Department, Washington, D. C.
CRAIN, JOHN J., Draughtsman,
36 Edison Park, Quincy, Mass.
CRANE, FRANK H., Supt., Theo. Crane's Sons
Dry Dock & Shipyard, Erie Basin,
House, 295 Garfield Place, Brooklyn, N. Y.
CREGIER, ABBOTT, M., Asst. in Mech. Engineering,
Columbia University, New York, N. Y.
House, 119 East Lincoln avenue, Mt. Vernon, N. Y.
CROSBY, RALPH W., of Daniel Crosby & Son,
Osterville, Mass.
CUMMINGS, LEE H., Draughtsman, Newport News
S. B. & D. D. Co., Newport News, Va.
CURTIS, ARTHUR V., Draughtsman,
C. & R. Dept., Navy Yard, Washington, D. C.
CUTLER, EDWARD OSGOOD, Draughtsman,
Office of Superintendent of Construction,
Bath Iron Works, Bath, Me.

D

DAMON, EDWARD ORNE, JR., office of Superintending
Constructor, Fore River Shipbuilding Co.,
Quincy Mass.
DAVIS, MATTHEWS ERASTUS, Asst. Foreman of Ships,
New York Shipbuilding Co., Camden, N.
House, 128 So. Broad street, Woodbury, N.

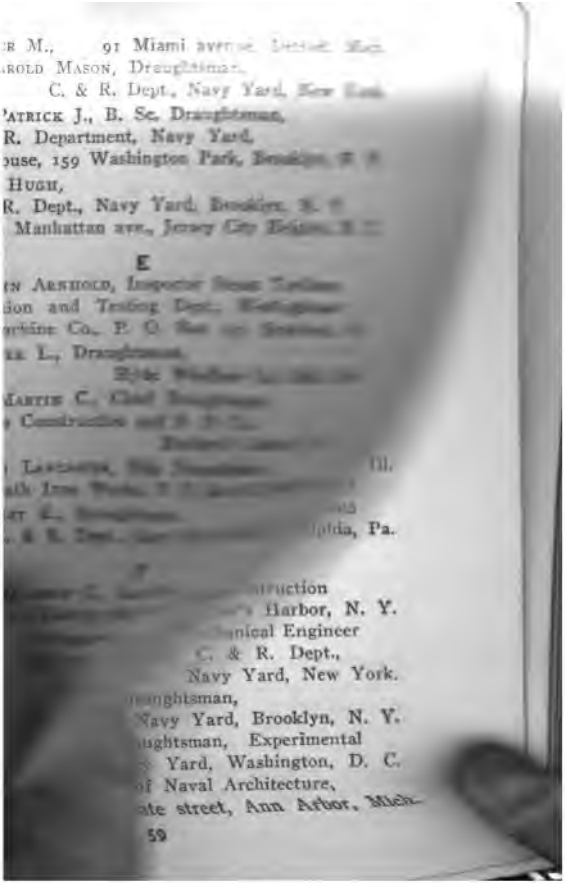
DAVIS, OLIVER M., 91 Miami avenue, Detroit, Mich.
DEGRAW, HAROLD MASON, Draughtsman,
C. & R. Dept., Navy Yard, New York.
DONNELLY, PATRICK J., B. Sc. Draughtsman,
C. & R. Department, Navy Yard,
House, 159 Washington Park, Brooklyn, N. Y.
DOUGHERTY, HUGH,
C. & R. Dept., Navy Yard, Brooklyn, N. Y.
House, 74 Manhattan ave., Jersey City Heights, N. J.

E

ENGERDT, JOHN ARNHOLD, Inspector Steam Turbines,
Inspection and Testing Dept., Westinghouse
Machine Co., P. O. Box 131, Braddock, Pa.
ELLIS, WALTER L., Draughtsman,
Hyde Windlass Co., Bath, Me.
ERISMANN, MARTIN C., Chief Draughtsman,
Marine Construction and D. D. Co.,
Mariner's Harbor, N. Y.
EVANS, JOHN LANCASTER, Ship Draughtsman,
Bath Iron Works, P. O. Box 838, Bath, Me.
EWEN, ALBERT E., Draughtsman,
C. & R. Dept., Navy Yard, Brooklyn, N. Y.

F

FERNALD, BENJAMIN G., Sales Eng.,
Northern Electric Mfg. Co., 29 Broadway, N. Y.
FILS, ERNEST, Draughtsman,
John N. Robbins Co., Erie Basin, Brooklyn, N. Y.
FINKENAUR, WM. M., Engine Draughtsman,
Burlee Dry Dock Co., Port Richmond, S. I.
FISHER, LEE DAVID,, Chief Engineer,
Fisher Construction Co., Joliet, Ill.
FRIEBLE, JOHN F., Draughtsman,
272 W. 141st street, New York.



:R M., 91 Miami ave
AROLD MASON, Draughtsman,
C. & R. Dept., Navy Yard,
PATRICK J., B. Sc. Draughtsman,
R. Department, Navy Yard,
ouse, 159 Washington Park,
HUGH,
R. Dept., Navy Yard,
Manhattan ave.,

E

N ARNHOLD,
ion and Testing Dept.,
rbine Co., P. O.
R L., Draughtsman,
MARTIN C., Chief
Construction
Ill.
Pa.

struction
Harbor, N. Y.
nical Engineer
C. & R. Dept.,
Navy Yard, New York.
ughtsman,
Navy Yard, Brooklyn, N. Y.
ughtsman, Experimental
Yard, Washington, D. C.
f Naval Architecture,
ate street, Ann Arbor, Mich.

59

G

GRIESHABER, HUGO EUGENE, Chief Hull Draughtsman, House, 269 Shaw street, East Baintree, Mass.

GROGAN, HARLEY HICHBORN, Asst. Draughtsman, Office of Supt. Constructor, N. Y. Shipbuilding Co., Camden, N. J.

H

HACK, HENRY J., Draughtsman, New York Shipbuilding Co., 900 Federal street, Camden, N. J.

HALL, FRANCIS GRANGER, JR., 468 Willoughby avenue, Brooklyn, N. Y.

HAMMOND, JAY D., Draughtsman, 156 Richmond avenue, Port Richmond, N. Y.

HAUPT, JOHN, 198th street, Bedford Park, N. Y.

HAYS, DAVID, Draughtsman, Old Dominion S. S. Co., 81 Beach street, New York, N. Y.

HERBERT, JEROME P., Draughtsman, C. & R. Dept., Navy Yard, Norfolk, Va.

HEWINS, LYMAN FOSTER, Draughtsman, C. & R. Dept., Navy Yard, Washington, D. C.

HIBBARD, HARRY LYMAN, Electrical Engineer, Bu. C. & R. Navy Dept., Washington, D. C.

HUNNEWELL, FRED A., Chief Draughtsman, Office of Suptg. Constructor, N. Y. Shipbuilding Co., Camden, N. J.

HUNT, HERMAN REYNOLDS, Draughtsman, Office of Suptg. Constructor, Moran Brothers Co., Seattle, Wash.

HUSSEY, JAMES W., Naval Architect, E. H. Godshalk and Co., Philadelphia, Pa.

HUSSEY, WM. FRANKLIN, Hull Draughtsman, Neafie & Levy S. & E. B. Co., Philadelphia, Pa.

J

JENKINS, SANFORD CUYLER, Draughtsman, Newport News S. B. & D. D. Co., Newport News, Va.



JENNINGS, ALFRED C., Hull Draughtsman,
Eastern Shipbuilding Co., New London Conn.
JONSON, HERMAN, Consulting and Contracting
Engineer, 79 E. 130th street, New York.
JOHNSON, EADS, Supt. of Construction,
U. S. Light House Service, Tompkinsville N. Y.

K

KEENAN, WALTER COOK, Draughtsman,
1034 Milan street, New Orleans, La.
KENNEY, LEWIS H., Draughtsman,
Office of Inspector of Machinery, The Wm.
Cramp & Sons S. &E. B. Co., Philadelphia, Pa.
KIMBALL, WALTER EVERAND, Asst. Draughtsman,
U. S. N., Fore River Shipbuilding Co., Quincy,
No. 1 Robin Hood street, Roxbury, Mass.
KOON, SIDNEY GRAVES, Editor Marine Engineering,
17 Battery Place, New York.
KREER, JOHN G., With Marine Iron Works, Station A,
House, 1654 Buckingham Place, Chicago, Ill.
KROUT, LUTHER W., Asst. Draughtsman, Office of
Suptg Constructor, The Wm. Cramp & Sons
S. & E. B. Co., Philadelphia, Pa.

L

LEE, HAROLD, Draughtsman, Marine Construction
& Dry Dock Co., Mariner's Harbor, N. Y.
LEWIS, ARTHUR SCHULTZ, M. E., Mechanical Engineer
in charge of Test Room, C. & R. Dept.,
Navy Yard, New York.
LEITCH, ALBERT CLARK, Draughtsman,
C. & R. Dept., Navy Yard, Brooklyn, N. Y.
LESLEY, EVERETT P., Draughtsman, Experimental
Model Basin, Navy Yard, Washington, D. C.
LOOMIS, ALLEN, Instructor of Naval Architecture,
923 So. State street, Ann Arbor, Mich.

LOOS, CHARLES L., JR., Draughtsman, Great Lakes Engineering Works, Detroit, Mich.
LUDERS, ALFRED E., Draughtsman, Tams, Lemoine & Crane, 52 Pine street, New York, N. Y.
LUEHRS, DANIEL MICHAEL, Student Naval Architecture, 136 Chandler street, Boston, Mass.

M

MACHATTIE, WILLIAM, Foreman Builder, Marine Engine & Machine Co., Harrison, N. J.
MAGER, EDWIN E., Draughtsman, Bu. C. & R., Navy Dept., Washington, D. C.
MARTIN, GILBERT DARLING, Draughtsman, 40 Harris avenue, Woonsocket, R. I.
MCCOMB, SAMUEL DEEMS, Draughtsman, 47 Lafayette avenue, Port Richmond, N. Y.
MCCORMACK, JAMES WILLIAM, J. L. Mott & Co., 88 Beekman street, New York.
MEEKER, H. L., Draughtsman, C. & R. Dept., Navy Yard, House, 96 Etna street, Brooklyn, N. Y.
MERRILL, AMBROSE MOODY, Draughtsman, C. & R. Dept., Navy Yard, New York.
MITCHELL, LELAND R., Marine Engine Draughtsman, Bath Iron Works, 476 Middle street, Bath, Me.
MORRISON, CLARENCE LEE, Evergreen Hall, Woodbury, N. J.

N

NEWELL, WILLIAM STARK, Bath, Maine.
NEWTON, WILLIAM BUXTON, Engine Draughtsman, Bath Iron Works, 850 Washington st., Bath, Me.
NORTH, CHARLES A., JR., Draughtsman, 55 High street, Woodbury, N. J.
NORTON, WILLIAM J., General Manager, Federal Electric Co., 317 W. 42nd street, New York.

O

O'DONNELL, CHARLES F., Boatbuilder,
C. & R. Dept., Navy Yard,
House, 56 Russell street, Brooklyn, N. Y.

OSBORN, EDWARD B., Foreman with W. R. Osborn,
Croton-on-Hudson, N. Y.

OVERMAN, AUSTIN EVERETT, 429 Penn st., Camden, N. J.

P

PATTERSON, HAROLD W., Hull Draughtsman,
Gas Engine & Power Co., and Charles L.
Seabury Co., Consolidated, Morris Heights, N. Y.

PIERCE, EDWARD EVERETT, Draughtsman,
New York Shipbuilding Co., Camden, N. J.
P .O. Box 281, Woodbury, N. J.

POTTER, JOSEPH S., Hull Draughtsman,
Gas Engine & Power Co., and Charles L.
Seabury Co., Consolidated, Morris Heights, N. Y.

PURDY, JAMES G., Chief Hull Draughtsman,
Gas Engine & Power Co. and Charles L.
Seabury Co., Consolidated, Morris Heights, N. Y.

PURVER, GEO. M., Civil Engineer,
Passaic Steel Co., Paterson, N. J.

R

READ, WALTER AUGUSTINE, Draughtsman,
C. & R. Dept., Navy Yard, Brooklyn, N. Y.

RICE, WINTHROP M., Draughtsman,
Electric Launch Co., Bayonne, N. J.

ROBERTS, ARTHUR O., Draughtsman, Box No. 294,
Manchester, N. H.

S

SHERIDAN, RICHARD BRINSLEY, Draughtsman,
Brown Hoisting Machinery Co.,
St. Clair street, Cleveland, O.

SIMPSON, ROBERT C., Naval Architect,
70 Long Wharf, Boston, Mass.
SMITH, GRANVILLE, Hull Draughtsman,
3121 14th street, N. W., Washington, D. C.
SMITH, JOSEPH DICKINSON CLAIR, Hartington, Neb.
STANKE, WILLIAM, Draughtsman, Hoboken, N. J.
House, 904 Garden street.
STAPLES, HORACE A.,
Bridgeport Brass Co., Bridgeport, Conn.
STEVENS, EDWIN A., JR., 68 Broad street, New York.
STEWART, LEE R., In charge of Mold Loft,
New York Shipbuilding Co., Camden, N. J.
STONE, PRESTON S., Office of Suptg. Constructor,
Moran Brothers Co., Seattle, Wash.
STUART, DONALD, 85 Chambers street, New York.
SULLIVAN, JOHN F., Draughtsman,
C. & R. Dept., Navy Yard, Brooklyn, N. Y.
SWASEY, A. LORING, of Swasey, Raymond & Page,
Naval Architects and Engineers,
Colonial Building, Boston, Mass.

T

TAPPEN, ALEXANDER B., Draughtsman,
263 W. 73rd street, New York.
TERRY, ARTHUR LINVILLE, JR., Draughtsman,
P. O. Box 371, Woodbury, N. J.
THURSTON, PERRY K., Draughtsman,
Bureau of S. E., Navy Dept., Washington, D. C.
THUNBERG, ERNST, JR., Draughtsman, care of
A. F. Hok, Gugatan 16, Stockholm, Sweden.
TOWLE, HOWARD C., Standard Oil Co.,
26 Broadway, N. Y.
TURNER, CHARLES C., Hull Draughtsman,
George Lawley & Sons Corp., Boston, Mass.
House, 10 Charles street, Quincy, Mass

U

UZELMEIER, WILLIAM, Marine Draughtsman,
Wm. Cramp & Sons Co., Philadelphia.
4436 Fleming street, Roxborough, Pa.

W

WASSILIEF, WASSILY W., Draughtsman,
L. Power & Co., Philadelphia, Pa.
WATTS, J. MURRAY, Secretary, The O. Sheldon Co.,
Yacht Builders, Neponset, Boston, Mass.
WEBB, THOMAS E., JR., Hull Draughtsman,
C. & R. Dept., Navy Yard, Brooklyn, N. Y.
House, 218 82d street.
WHITAKER, FRANK B., Draughtsman, Naval Constructor's Office, Moran Bros. Co., Seattle Wash.
WHITE, WARREN A., Draughtsman,
N. Y. Shipbuilding Co., Camden, N. J.
WHITE, WILLIAM WESLEY, Draughtsman,
1001 Union Trust Building, Baltimore, Md.
WHITEHOUSE, FREDERICK CHARLES, Draughtsman,
C. & R. Dept., Navy Yard, Brooklyn, N. Y.
WIGHT, ROGER WILLARD,
Instructor in Physics, Pratt Institute, Brooklyn.
WINTERBURN, CHARLES, Draughtsman,
Bu. C. & R., Navy Dept., Washington, D. C.
WRIGHT, HENRY C., JR., Hull Draughtsman,
Bath Iron Works, Bath, Me.

Y

YEOMANS, CLYDE,
Cor. Mott & Hollywood avenues, Far Rockaway, N. Y.
YOUNG, WILLIAM J. J., Asst. Draughtsman,
Fore River Shipbuilding Co., Quincy,
Residence, 55 Freeman street, Wollaston, Mass.





CONSTITUTION

AND

BY-LAWS

OF THE

Society of Naval Architects and Marine Engineers





CONSTITUTION AND BY-LAWS

ARTICLE I.

Name and Object.

1. The name of the Association shall be, "THE SOCIETY OF NAVAL ARCHITECTS AND MARINE ENGINEERS."

2. Its object shall be the promotion of the art of shipbuilding, commercial and naval.

3. In furtherance of this object, annual meetings shall be held for the reading and discussion of appropriate papers and interchange of professional ideas, thus making it possible to combine the results of experience and research on the part of shipbuilders, marine engineers, naval officers, yachtsmen, and those skilled in producing the material from which ships are built and equipped.

ARTICLE II.

Membership.

1. The Society shall consist of Members, Associates, Juniors, Honorary Members and Honorary Associates.



2. *Members.*—(1) The class of Members shall consist exclusively of Naval Architects, Marine and Mechanical Engineers, including Professors of Naval Architecture or Mechanical Engineering in colleges of established reputation.

(2) A candidate for this class must not be less than twenty-five years of age and comply with the following regulations: He shall submit to the Council a statement showing that he has been engaged in the practice of his profession, in a responsible capacity, for at least three years, and setting forth the grounds upon which he bases his claim to membership. This statement shall be signed by three members, who shall certify to their personal knowledge of the candidate and approval of his statement.

(3) In the case of persons not American citizens, the signatures of three members shall be required in confirmation of their personal knowledge of the candidate's scientific attainments.

(4) If three-fourths of the members of the Council present are in favor of the admission of the candidate his name shall be submitted to the members of the Society at the next meeting; the voting to be by ballot, should a ballot be demanded.

3. *Associates.*—(1) The class of Associates shall consist of all persons who, by profession,

occupation, or scientific attainments, are qualified to discuss the qualities of a ship.

(2) Candidates for this class shall submit to the Council a written statement of their qualifications for membership. If considered by three-fourths of the Council present duly qualified for associate membership their names shall be submitted to the Society at the next meeting, to be voted upon by the Members and Associates: voting to be by ballot, should a ballot be demanded.

4. The proportion of favorable votes for deciding the election of Members and Associates shall be at least four-fifths of the number recorded.

5. *Juniors.*—(1) The class of Juniors shall consist of graduates of technical schools of established reputation, or persons who have had not less than two years' practical experience in marine engine works or shipyards.

(2) Candidates must be at least eighteen years of age and certify their intention to continue in the profession and become naval architects and marine engineers.

(3) Juniors shall be eligible for transfer to the class of Members after fulfilling the necessary conditions.

(4) The admission of Juniors shall be by a

favorable vote of three-fourths of the members of the Council present.

(5) Juniors shall have no voice in the government of the Society or admission of members.

6. *Honorary Members and Honorary Associates.*—The Council may elect Honorary Members and Honorary Associates, the total number not to exceed twenty-five. They shall be persons of acknowledged eminence in their profession upon whom the Council may see fit to confer an honorary distinction.

Article III.

Dues.

1. The entrance fees, payable on admission to the Society, shall be as follows:

Members and Associates, ten dollars; Juniors, five dollars; Honorary Members and Honorary Associates, no fees.

2. The annual dues shall be as follows:

Members and Associates, ten dollars; Juniors, five dollars; Honorary Members and Honorary Associates, no dues.

3. A member transferred from one grade to another shall pay the difference between the entrance fees of the two grades, and his annual dues shall be those of the grade to which transferred.

4. The annual contributions shall be payable in advance on the first day of January. The Secretary shall notify each member of the amount due for the ensuing year at the time of giving notice for the annual meeting. On election each member shall pay his entrance fee and annual dues for the current year and be entitled to receive the proceedings of the annual meeting of the year during which he is elected.

5. Members and Associates can compound for all future dues and become Life Members or Life Associates by making a single payment of two hundred dollars and signing an agreement to conform to any future amendments to the Constitution and By-Laws.

6. Members are entitled to no return fees upon severing their connection with the Society.

7. Any member whose dues are more than three months in arrears shall be notified by the Secretary. Should his dues become six months in arrears he shall be again notified by the Secretary and his rights as a member suspended. Should his dues become one year in arrears the delinquent member shall forfeit his membership in the Society unless the Council may deem it expedient to extend the time of payment.

8. The Council may, in its discretion, temporarily suspend the annual payment of dues by any



member whose circumstances have become such as to make such payment impossible, and may, under similar circumstances, remit the whole or part of dues in arrears.

9. No name shall be entered on the rolls as Member, Associate or Junior, nor shall the privileges of membership be enjoyed until all dues shall have been paid; if the payment be delayed for more than six months from the date of election, the same shall be void unless the Council otherwise direct.

10. Should the expulsion of any member be judged expedient by five or more members, they must draw up and sign a proposal requesting such expulsion, delivering the same to the Secretary, to be laid before the Council.

(2) If the Council do not find reason to concur in the proposal, no entry thereof shall appear in the minutes, nor shall any public discussion thereon be permitted.

(3) If, however, the Council find the charges contained in the proposal for expulsion substantiated, the accused member shall be notified and given an opportunity to resign. If he avails himself of this privilege, no entry shall be made on the minutes nor public discussion of the case be permitted. But if he declines to resign and *offers no satisfactory* explanation of the charge.



the whole case shall be submitted to a special meeting of the Society.

(4) If two-thirds of the members at this special meeting (providing there be not less than twenty present) vote for expulsion, the Chairman of the meeting shall cause the accused to be expelled from the Society, and direct the Secretary to notify the accused of this action.

Article IV.

Officers.

1. The officers of the Society shall consist of a President, Past Presidents, twelve Vice-Presidents, twenty-four Members of Council, and a Secretary and Treasurer.

2. Both Members and Associates are eligible for the offices of President, Vice-President and Members of Council, but three-fourths of the Council shall be Members.

3. Prior to the date of the annual meeting of the Society of the year with which the term of the President expires, the Council shall nominate a candidate for the office of President, whose name shall be presented to the Society for election at the annual meeting. Any other candidate whose nomination, signed by at least sixty Members and Associates, shall have been submitted to the Secretary prior to the annual meeting, shall



also be presented. The candidate receiving the highest number of votes shall be the President for the ensuing three years. The first President under this rule shall be elected at the annual meeting in 1906, and his term of office shall begin January 1st, 1907. The President shall not be eligible for election as his own successor.

4. The term of office of the Vice-Presidents shall be six years. Prior to the annual meeting in 1906 the Executive Committee shall by lot divide the present list of Vice-Presidents into six classes, so that the term of two of their number shall expire at the end of 1906, and two others at the end o f1907, and so on to the year 1911. The Vice-Presidents to fill the vacancies occurring each year in any class shall be elected by the Council from their own membership. Retiring Vice-Presidents shall be eligible for re-election.

5. The term of office of the Members of Council shall be three years. Prior to the annual meeting in 1906, the Executive Committee shall by lot divide the present list of Members of Council into three classes, each class consisting, as near as may be, of six Members and two Associates. The terms of office of the three classes *shall expire* at the end of the years 1906, 1907 and *1908 respectively.* Retiring Members and Asso*ciates shall be* eligible for re-election. Prior

September 1st of each year, the Executive Committee shall prepare voting lists to fill the places of retiring Members and Associates, Members of the Council. The list shall contain the names of at least twelve Members and at least four Associates as candidates for the vacancies. The lists shall contain the names of all retiring Members and Associates who shall not have declined re-election, and of all candidates who shall have been nominated in writing by not less than tyenty members in the case of Members, and not less than twenty members and associates in the case of Associates. No nominations received by the Secretary after August 15th shall be considered. Should such nominations not be sufficient in number to fill up lists of at least twelve Members and four Associates as candidates, the Executive Committee shall add sufficient names to fill out these numbers. The voting lists shall be mailed as soon as practicable after September 1st of each year to Members and Associates. Each Member may vote for not more than six Members and two Associates for the Council, and each Associate may vote for not more than two Associates. The ballots shall be returned by mail to the Secretary and canvassed at the annual meeting. The six members receiving the highest votes shall be declared elected Members of Council, and the two



associates receiving the highest votes shall be declared electd Associates, Members of Council, for the term of three years.

6. A vacancy in the office of President shall be filled by ballot by the Council from the list of Vice-Presidents until the end of the year in which it occurs. At the annual meeting of that year a new President shall be elected for three years in the manner prescribed in paragraph 3. A vacancy in the office of Member of Council shall be filled by the Council for the unexpired portion of the term of the Member or Associate causing the vacancy.

7. The Presidents, Past Presidents and Vice-Presidents shall be ex-officio Members of Council.

8. The Council may hold meetings subject to the call of the President, as often as the interests of the Society may demand.

9. At all meetings of Council five members shall constitute a quorum.

10. The Secretary and Treasurer shall be elected annually by the Council, but may be removed at any time by a majority vote of the Council after due notice has been given.

11. The Secretary must be a Member of the Society.



Article V.

Management.

1. (1) The President shall have general supervision over the affairs of the Society, appoint special committees, and preside at the annual general meetings. He shall be *ex-officio* member of all committees .

(2) In the absence of the President, the Vice-Presidents, in the order of seniority, shall preside and perform all the duties of the President.

2. The direct management of the Society shall be vested in an Executive Committee composed of five members of Council, elected annually by the Council, the President and Secretary of the Society being *ex-officio* members of the Committee. At least three of the five elective members of the Committee shall be Members of the Society.

3. The Executive Committee shall manage the affairs of the Society in conformity with the laws under which it is incorporated and the provisions of this Constitution. It shall direct the investment and care of the funds of the Society; make appropriations for specific purposes; arrange for the reading and publication of professional papers under such regulations as the Council may from time to time prescribe; take measures to advance the interests of the Society, and generally direct its affairs.



4. The Executive Committee shall make an annual report to the Society, transmitting the report of the Secretary and Treasurer, and of any special committee which may have been ordered.

5. (1) The Secretary shall be the Executive Officer of the Society under the immediate direction of the President and the Executive Committee.

(2) He shall prepare the business for the annual meetings and record the proceedings thereof.

(3) He shall be responsible for all expenditures and certify the accuracy of all bills or vouchers upon which money has been paid, and he shall conduct the correspondence of the Society and keep full records of the same.

6. The Treasurer shall see that all money due the Society is collected and carefully invested in such manner as the Executive Committee may direct. If considered advisable by the Council, the duties of Treasurer may be performed by the Secretary.

7. The accounts of the Secretary and Treasurer shall be audited annually by a special committee of three members of Council, appointed by the President of the Society.



Article VI.

Meetings.

1. There shall be at least one annual general meeting of the Society for the reading and discussion of professional papers, election of officers for the ensuing year, and transaction of such other business as may be brought before it. The time and location of this meeting shall be determined by the Council at least three months prior to the date fixed.

2. Special meetings may be called by the Executive Committee at the request of twenty members, which request shall state the purpose of the meeting. The call for such meetings shall be issued ten days in advance, and shall state the purpose thereof. At these meetings thirty members shall constitute a quorum.

3. The Society may adopt, from time to time, such rules as it may think proper for the order of business at its meetings.

4. Special meetings of the Executive Committee may be held at any time, subject to the call of the Chairman; and four members shall constitute a quorum for the transaction of any business that may be properly brought before the Committee.



Article VII.

Amendments.

1. Proposed amendments to the Constitution must be reduced to writing and signed by not less than ten members. They shall be forwarded to the Secretary at least ten days before the annual general meeting, and shall be immediately forwarded to the Council for its consideration. If a majority of the Council approve the proposed amendment it shall be presented to the Society at the next ensuing general meeting for discussion; if approved by two-thirds of the members present, voting by ballot, if a ballot be demanded, it shall be adopted.

Society of Naval Architects and Marine Engineers

*FORM OF PROPOSAL OF MEMBER

Name in full.....
Date of Birth.....
Nationality .....
Post-Office Address .....
Date of Application.....
Professional position now held, giving name and address of institution, firm or shipyard. .....
.....

Brief statement of technical training and professional experience, strict attention being paid to the by-laws governing applications for admission to membership.

.....
.....
.....
.....
.....
.....

[*See Constitution.*]

I certify that the above statements are correct, and, if elected, pledge myself to abide by the constitution and by-laws as at present in force or hereafter established, and, in the event of my ceasing to be a member, that I will return for cancellation my certificate of membership in the above society.

Signature of applicant.....

.....190

Having examined the above statement, we, the undersigned, signify our approval thereof and recommend Mr.....for election as a Member.

Signatures of three members. .....
.....
.....

*Same form for Associates and Juniors, except that the approval of only two members are required for Associates, and not any for Juniors.



TRANSACTIONS

OF THE

SOCIETY OF

NAVAL ARCHITECTS

AND

MARINE ENGINEERS

TABLE OF CONTENTS OF
VOLUMES I TO XIII





VOLUME I.

288 Pages. 60 Plates and Drawings.

PAPERS.

1. "Evolution of the Atlantic Greyhound."
   CHAS. H. CRAMP, Esq., Pres., Wm. Cramp & Sons' Ship and Engine Building Co.

2. "Determination of the Approximate Dimensions of a Vessel to Fulfill a Given Programme of Requirements."
   JOSEPH J. WOODWARD, Naval Constr. U. S. N.

3. "United States Treasury Rules for the Inspection of Machinery and Boilers."
   JAMES T. BOYD, Esq.

4. "Production in the United States of Heavy Steel Engine, Gun and Armor Forgings."
   RUSSELL W. DAVENPORT, Esq.

5. "Coal Bunkers and Coaling Ship."
   ALBERT P. NIBLACK, Lieutenant, U. S. N.

6. "Steel Ships of the United States Navy."
   THEODORE D. WILSON, Ex-Chief Constructor, U. S. N.

7. "Notes on the Machinery of the New Vessels of the United States Navy."
   GEORGE W. MELVILLE, Engineer-in-Chief, U. S. N.



8. "Comparative Performances of American and Foreign Freighting Ships—Our Superiority."
   Wm. W. Bates, Esq., late Commander of Navigation.

9. "Some Thoughts on the Design of New York Ferry Boats."
   Col. Edwin A. Stevens, President, Hoboken Ferries.

10. "The Law of Frictional Resistance."
    Prof. W. F. Durand, Cornell University.

11. "Steam Yachts as Naval Auxiliaries in Time of War."
    Wm. Gardner, Esq.

12. "The Wetted Surface of Ships."
    David W. Taylor, Naval Constructor, U. S. N.

13. "The Influence of Speed and Weight of Machinery on the Determination of the Other Elements of the Design of Steam Vessels."
    James O'Neill, Esq.

14. "The Development of Shipbuilding on the Great Lakes."
    Jno. F. Pankhurst, Esq.

VOLUME II.

316 Pages. 69 Plates and Drawings.

PAPERS.

1. "Some Suggestions of Professional Experience in connection with the Naval Construction of the Last Ten Years—1884-1894."
   RICHARD W. MEADE, Rear Admiral, U. S. N.
2. "The Use of Small Models for the Determination of Curves of Stability."
   Mon. E. BERTIN, Director of the French Government School of Naval Design.
3. "Some Obstacles to Shipbuilding and Owning in this Country."
   GEO. W. DICKIE, Esq., Manager, Union Iron Works, San Francisco, Cal.
4. "Electricity on Shipboard—Its Present Position and Future Development."
   S. DANA GREENE, Esq.
5. "Cellulose and Its Application to Warships."
   Mon. E. CHENEAU, Philadelphia, Pa.
6. "The U. S. Triple-Screw Cruisers 'Columbia' and Minneapolis.'"
   GEORGE W. MELVILLE, Engineer-in-Chief, U. S. N.
7. "A Dynamic Steam Engine Indicator Tester."
   Professor CECIL H. PEABODY, and Asst. Professor E. F. MILLER, Massachusetts Institute of Technology.



8. "Experience Gained with our New Steel Ships as Regards Care and Preservation."
   PHILIP HICHBORN, Chief Constructor, U. S. N.

9. "Present Status of Face-Hardened Armor."
   W. T. SAMPSON, Captain and Chief of Ordnance, U. S. N.

10. "Hydraulic Power for Warships."
    ALBERT W. STAHL, Naval Constructor, U. S. N.

11. "Notes on Launching."
    WILLIAM J. BAXTER, Naval Constructor, U. S. N.

12. "Yachts in England and America."
    LEWIS NIXON, *Esq.*, Manager, Crescent Shipyard.

13. "Accessibility and Circulation of Water-Tube Boilers."
    L. D. DAVIS, Esq., M. E. President Davis-Farrar Co.

14. "Recent Light-Draught Gunboats of the U. S. Navy."
    J. J. WOODWARD, Naval Constructor, U. S. N.

15. "An Approximate Formula for the Wetted Surface of Ships."
    Profs. W. F. DURAND and GEO. R. MCDERMOTT, Cornell University.



VOLUME III.

300 Pages. 57 Plates and Drawings.

PAPERS.

1. "American Maritime Development."
   Capt. HENRY C. TAYLOR, U. S. N., President, Naval War College.

2. "The Centreboard—Its Influence on Design; Its Value and Proper Use."
   WM. P. STEPHENS, Esq.

3. "Rudder Experiments—U. S. S. 'Monterey.'"
   ELLIOTT, SNOW, Asst. Naval Constructor, U. S. N.

4. "Aluminum—Its Alloys and Their Use in Ship Construction."
   J. C. MCGUIRE, Esq., C. E.

5. "Methods and Forms for Certain Ship Calculations."
   D. W. TAYLOR, Naval Constructor, U. S. N.

6. "The Number of Longitudinal Intervals in Ship Computation, as Affecting the Accuracy of Integration for Displacement," and "Note on the Relation between Reduced and True Wetted Surface."
   Prof. W. F. DURAND, Cornell University.

7. "Recent Designs for Vessels for the U. S. Navy."
   PHILIP HICHBORN, Chief Constructor, U. S. N.

8. "Tactical Considerations Involved in War Ship Design."
   ALBERT P. NIBLACK, Lieutenant, U. S. N.

9. "Engineering Research in the Navy."
   Prof. WM. S. ALDRICH, University of West Virginia.

10. "Performance of the Twin-Screw Steamer 'City of Lowell.'"
    Prof. JAMES E. DENTON, Stevens Institute of Technology.

11. "The Ventilation of Ships."
    F. B. DOWST, Esq., M. E.

12. "An Experimental Test of the Armored Side of the U. S. S. 'Iowa.'"
    ALBERT W. STAHL, Naval Constructor, U. S. N.

VOLUME IV.

209 Pages. 58 Plates and Drawings.

PAPERS.

1. "Test of an Experimental Turret of the U. S. Battleship 'Massachusetts.'"
   Commodore W. T. SAMPSON, U. S. N., Chief of Bureau of Ordnance, Navy Department, Washington, D. C.



2. "Steel Canal Boats."
   LEWIS NIXON, Manager, Crescent Shipyard, Elizabeth, N. J.

3. "Naval Practice in Ship Rivets and Riveting."
   Naval Constructor J. H. LINNARD, U. S. N.

4. "American Fire-Boats."
   H. DEB. PARSONS, Marine Engineer.

5. "Corn-Pith Cellulose."
   HENRY W. CRAMP, Vice-President, Wm. Cramp & Sons, Philadelphia, Pa.

6. "The New Battle-Ships."
   Chief Constructor PHILIP HICHBORN, U. S. N.

7. "Speed Trials of a Screw-Propelled Ferry-Boat."
   F. L. DUBOSQUE, Engineer, Floating Equipment, Pennsylvania Railroad.

8. "Hydraulic Sheers for Lifting One Hundred and Twenty-Five Tons."
   FRANK B. KING, Marine Engineer and Naval Architect.

9. "A Method of Calculating the Stability of Ships Adapted to the Use of Standard Curves of Stability."
   HUGO HAMMAR, Naval Architect.

10. "Stability of a Ship in Damaged Condition."
    Prof. JAMES SWAN, Massachusetts Institute of Technology.



11. "Damaged Conditions as Affecting the Stability and Fighting Efficiency of Battle-Ships."
    Assistant Naval Constructor T. F. RUHM, U. S. N.
12. "Screw Propellers."
    Prof. GEO. R. MCDERMOTT, Cornell University.

VOLUME V.

247 Pages. 67 Plates and Drawings.

PAPERS.

1. "Water-Tight Bulkhead Doors—the 'Long Arm' System on the U. S. S. 'Chicago.'"
   WM. BARNUM COWLES, Esq.
2. "Regulations for Loading Vessels."
   LEWIS NIXON, Esq., Manager, Crescent Shipyard.
3. "Torpedo Boat Design."
   Asst. Naval Constructor H. G. GILLMOR, U. S. N.
4. "The Commerce of the Great Lakes."
   C. E. WHEELER, Esq.
5. "Progressive Trials of the 'Guardian.'"
   Prof. C. H. PEABODY, Mass. Institute Technology.
6. "An Experimental Study of the Influence of *Surface* upon the Performance of Screw *Propellers.*" Preliminary paper.
   Prof. W. F. DURAND, Cornell University.

7. "Some Notes on the Speed Trials and Experience in Commission of our New Battleships."
   Chief Constructor PHILIP HICHBORN, U. S. N.

8. "Use of Water Ballast for Colliers in the Pacific Coast Trade."
   HUGO P. FREAR, Esq., Naval Architect.

9. "Estimated Weights of Machinery."
   Prof. GEO. R. MCDERMOTT, Cornell University.

10. "Navy Yard Expenses."
    Naval Constructor W. J. BAXTER, U. S. N.

11. "Pneumatic Steering Gear—as Applied to the U. S. Monitor 'Terror.'"
    H. A. SPILLER, Esq.

VOLUME VI.

217 Pages. 120 Plates and Drawings.

PAPERS.

1. "The Standard Navy Boats."
   ARTHUR B. CASSIDY, Esq.

2. "Bilge Keels and Rolling Experiments—U. S. S. 'Oregon.'"
   Asst. Naval Constructor LAWRENCE SPEAR, U. S. N.



3. "Portable Pneumatic Riveters in Shipbuilding."
   W. I. Babcock, Esq., Manager, Chicago Shipbuilding Co.
4. "Torpedo Boat Destroyers for Sea Service, with Special Reference to the Conditions that Prevail on the Pacific Coast."
   G. W. Dickie, Esq., Manager, Union Iron Works, San Francisco.

Topical Discussion—
The utility of Torpedo Boats, and has the Sub-Marine Boat a Place?

5. "Steam Economy Test of a Unique Form of Feed Pump."
   F. M. Wheeler, Esq.
6. "The Steam Yacht as a Naval Auxiliary."
   William P. Stephens, Esq.
7. "Designs of the New Vessels for the U. S. Navy."
   Chief Constructor Philip Hichborn, U. S. N.
8. "Methods of Securing Water-Tight Work."
   Asst. Naval Constructor H. G. Smith, U. S. N.
9. "Test of the Strength of a Longitudinal Bulkhead Separating Two Engine Rooms."
   Naval Constructor J. J. Woodward, U. S. N.
10. "An Electrically Operated 150-Ton Revolving Derrick."
    Walter A. Post, Esq., Manager, Newport News Shipbuilding and Dry Dock Co.

11. "Stability of a Battleship under Damaged Conditions."
Prof. CECIL H. PEABODY, Massachusetts Institute of Technology.

Topical Discussion—

1st.—Under the circumstances of a blockade at Santiago, which was the more economical method of maintaining the boilers in readiness for immediate action—banking the fires or keeping them spread but very thin?

2d.—As a result of experience on the Blockade, what particular points about the machinery were most likely to give trouble, and what could be done to prevent a recurrence of such trouble?

VOLUME VII.

285 Pages. 105 Plates and Drawings.

PAPERS.

1. "Coaling Vessels at Sea."
SPENCER MILLER, Esq.

2. "Causes for the Adoption of Water-Tube Boilers in the U. S. Navy."
Engineer-in-Chief GEO. W. MELVILLE, U. S. N.



3. "Suggestions as to Improved Appliances for Launching Ships' Boats."
   JOHN HYSLOP, Esq.

4. "The Electric Plants of the Battleships Kearsarge and Kentucky."
   Naval Constructor J. J. WOODWARD, U. S. N.

5. "The Increasing Complications in Warships, and How Simpler Arrangements might be Adopted."
   GEO. W. DICKIE, Esq., Manager, Union Iron Works.

6. "Beam Formulæ Applied to a Vertically Stiffened Bulkhead, with some Results."
   H. F. NORTON, Esq.

7. "Notes on the Sheathing of the U. S. S. Chesapeake."
   Naval Constructor LLOYD BANKSON, U. S. N.

8. "System of Work in a Great Lake Shipyard."
   W. I. BABCOCK, Esq., Manager, Chicago Shipbuilding Co.

9. "Overhead Cranes, Staging and Riveter Carrying Appliances in the Shipyard."
   JAMES DICKIE, Esq., Superintendent, Union Iron Works.

10. "*Designs* for the Denver Class Sheathed *Protected* Cruisers."
    Chief Constructor PHILIP HICHBORN, U. S. N.

11. "Novelties in Ship Fittings."
Asst. Naval Constructor R. M. WATT, U. S. N.

12. "Progressive Speed Trials of the U. S. S. Manning."
Prof. C. H. PEABODY, Massachusetts Institute Technology.

13. "Tactical Considerations Involved in Torpedo-Boat Design."
Lieut. A. P. NIBLACK, U. S. N.

14. "On the Action of the Rudder, with Special Reference to the Motion of the Ship while the Helm is being put over."
Prof. WM. F. DURAND, Sibley College, Cornell University.

VOLUME VIII.

275 Pages. 151 Plates and Drawings.

PAPERS.

1. "Capacity Test of a Unique Form of Air Pump."
F. MERIAM WHEELER, Esq.

2. "Interchangeability of Units for Marine Work."
W. D. FORBES, Esq.



3. "The Performance of the Imperial Russian Cruiser Variag."
   CHAS. H. CRAMP, Esq., Pres. Wm. Cramp & Sons, Ship and Engine Building Co., Philadelphia, Pa.

4. "The United States Experimental Model Basin."
   Naval Constructor D. W. TAYLOR, U. S. N.

5. "The Composition and Classification of Paints and Varnishes."
   Prof. A. H. SABIN.

6. "Tests of the Electric Plants of the Battleships Kearsarge and Kentucky."
   Naval Constructor J. J. WOODWARD, U. S. N.

7. "Coaling of the U. S. S. Massachusetts at Sea."
   SPENCER MILLER, Esq.

8. "Notes on Recent Improvements in Foreign Shipbuilding Plants."
   Asst. Naval Constructor H. G. GILLMOR, U. S. N.

9. "Can the American Shipbuilder under Present Conditions Compete with the British and German Shipbuilders in the Production of the Largest Class of Ocean Passenger *and Freight* Steamships?
   GEO. W. DICKIE, Esq., Manager, Union Iron Works, San Francisco.

10. "Classification Rules."
THEODORE LUCAS ,Esq.

11. "Recent Designs of Battleships and Cruisers of the U. S. N."
Chief Constructor PHILIP HICHBORN, U. S. N.

12. "A Comparison of the Contract Prices of our Naval Vessels."
HARRISON, S. TAFT, Esq.

13. "Launch of a Cruiser and a Battleship."
JAMES DICKIE, Esq., Supt., Union Iron Works, San Francisco.

14. "Safety of Torpedo Boats at Sea and in Action Under Various Conditions."
Naval Constructor LLOYD BANKSON, U. S. N.

VOLUME IX.

251 Pages. 58 Plates and Drawings.

PAPERS.

1. "Trial of Speed between the Steamers 'City of Erie' and 'Tashmoo.'"
FRANK E. KIRBY, Esq.

2. "Effect of Variation of Dimensions on the Stresses in a Ship's Structure."
Professor H. C. SADLER, Esq.



3. "Power Consumed in Propelling the Whitehead Torpedo at Various Speeds."
   FRANK M. LEAVITT, Esq.
4. "The Theoretical and Practical Methods of Balancing Marine Engines." (Prize Competition Paper.)
   Naval Constructor D. W. TAYLOR, U. S. N.
5. "The Theoretical and Practical Methods of Balancing Marine Engines." (Prize Competition Paper.)
   Rear Admiral GEORGE W. MELVILLE, U. S. N.
6. "A Brief Comparison of Recent Battleship Designs."
   Naval Constructor H. G. GILLMOR, U. S. N.
7. "Changes in Torpedo Boat Designs."
   CHARLES P. WETHERBEE, Esq.
8. "Late Developments in Armor and Ordnance."
   J. F. MEIGS, Esq.
9. "Recent Experiments in Attacking Armor with High Explosive Shells."
   Captain E. B. BABBITT, Ordnance Dept., U. S. A.
10. "Some Notes on Tidal Corrections."
    Messrs. E. A. STEVENS, and C. P. PAULDING.
11. "Side Launch of Torpedo Boats and Torpedo *Boat Destroyers*."
    Asst. Naval Constructor WM. G. GROESBECK, *U. S. N.*

VOLUME X.

377 Pages. 108 Plates and Drawings.

PAPERS.

1. "Technical Training for Shipbuilders."
   HENRY S. PRITCHETT, Ph.D., LL.D.
2. "Progressive Trials of the Screw Ferry Boat 'Edgewater.'"
   EDWIN A. STEVENS, and CHARLES P. PAULDING.
3. "The Possible and Probable Future Developments in the Use of Electricity on Board Ships."
   F. O. BLACKWELL, Esq.
4. "The Preliminary Official Trial of the U. S. B. S. 'Maine.'"
   Asst. Naval Constructor J. W. POWELL, U. S. Navy.
5. "The Water-tube Boiler in the American Mercantile Marine."
   WM. A. FAIRBURN, Esq.
6. "Longitudinal Bending Stress on Damaged Ships."
   GEORGE C. COOK, Esq.
7. "Some Problems on the Surfaces of Buoyancy and of Waterlines."
   Professor CECIL H. PEABODY.



8. "Vibration of Steamships; with Special Reference to those of the 2d and Higher Periods."
   Rear-Admiral GEORGE W. MELVILLE, Engineer-in-Chief, U. S. Navy.
9. "The Development of Modern Ordnance and Armor in the United States."
   Rear-Admiral CHARLES O'NEIL, Chief of the Bureau of Ordnance, U. S. Navy.
10. "Remarks on the New Designs for Naval Vesels."
    Rear-Admiral FRANCIS T. BOWLES, Chief Constructor, U. S. Navy.
11. "The Tactics of the Gun."
    Lieut.-Commander ALBERT P. NIBLACK, U. S. N.
12. "Why it Takes So Long Time to Build and Equip a Naval Vessel for the United States."
    GEORGE W. DICKIE, Esq.
13. "Submarine Torpedo Boats; Past, Present and Future."
    LAWRENCE Y. SPEAR, Esq.
14. "Measurement Rules for Yachts, with Special Reference to Racing Conditions."
    F. W. BELKNAP, Esq.
15. "*The Balancing* of Valve Gears." (Prize *Competition* Paper.)
    LUTHER D. LOVEKIN, Esq.

VOLUME XI.

353 Pages. 148 Plates and Drawings.

PAPERS.

1. "Progressive Trial of Ferry Boat 'Bremen.'"
   EDWIN A. STEVENS, Esq.

2. "Notes on the Arangements and Construction of Steam Pipes and their Connections."
   R. C. MONTEAGLE, Esq.

3. "Gasoline Engines for Marine Propulsion."
   D. H. COX, Esq.

4. "Some Thoughts on the Design of Modern Steam Yachts."
   CLINTON H. CRANE, Esq.

5. "Watertight Subdivision of Warships."
   Commander WM. HOVGAARD, Royal Danish Navy.

6. "Non-corrosive Nickel Steel Boiler Tubes."
   ALBERT LADD COLBY, Esq.

7. "Curves of Form of the Initial Condition."
   GEORGE C. COOK, Esq.

8. "The Metric System in Relation to the Shipbuilding Industry in the United States."
   Naval Constructor J. H. LINNARD, U. S. N.



9. "Electricity in Manufacturing Plants.'
W. M. McFarland, Esq.

10. "Description of the Design and Buildir
the 21,000-ton Steamships 'Minnesota'
'Dakota.'"
Charles R. Hanscom, Esq.

11. "Ships' Forms Derived by Formulæ."
Naval Constructor D. W. Taylor, U. S.

12. "Displacement and Stability Calculatio
Walter S. Leland, Esq.

13. "Graphic Calculations of a Ship's Stabi
Professor M. H. Bauer.

14. "Notes on the Launching of the Cr
'Chattanooga.'"
M. S. Chace, Esq.

15. "Notes on Side Launchings."
Asst. Naval Constructor Wm. G. Groes
U. S. N.

16. "Launching of Large Merchant Vessels
Wm. A. Fairburn, Esq.

17. "*Some Notes* on the Performance o
Torpedo Vessels of the U. S. Navy a
Lieut. L. H. Chandler, U. S. N.

VOLUME XII.

362 Pages. 115 Plates and Drawings.

PAPERS.

1. "Simple Methods in Warship Designs a Necessity."
   GEORGE W. DICKIE, Esq.

2. "The Semi-Globular Naval Battery."
   ANSON PHELPS STOKES, Esq.

3. "The Seagoing Battleship."
   Commander WILLIAM HOVGAARD, Royal Danish Navy.

4. "Some Recent Experiments at the United States Model Basin."
   Naval Constructor D. W. TAYLOR, U. S. N.,

5. "Some Further Notes on the Performance of the Torpedo Boats of the United States Navy at Sea."
   Lieutenant L. H. CHANDLER, U. S. N.

6. "The U. S. Armored Cruiser 'Colorado.'"
   Asst. Naval Constructor J. W. POWELL, U. S. N.,

7. "Coaling Warships at Sea—Recent Developments."
   SPENCER MILLER, Esq.



8. "Time Allowance for Steam Yacht Races."
   Rear-Admiral GEORGE W. MELVILLE, Ex- Engineer-in-Chief, U. S. Navy.

9. "On the Rules of Lloyd's Register for Building Yachts to Class."
   GEORGE STANBURY, Esq.

10. "The Position of the Center of Lateral Resistance."
    Mons, L. E. BERTIN.

11. "Subdivision of Weights in Ships' Displacement."
    Colonel NABOR SOLANI.

12. "The Shipping and Shipbuilding of Puget Sound."
    FRANK W. HIBBS, Esq.

13. "Maintenance of Machinery in Merchant Ships."
    ROBERT HAIG, Esq.

14. "Uniform Specifications."
    W. D. FORBES, Esq.

15. "High Speed Gasoline Launches."
    CLINTON H. CRANE, Esq.

16. "Speed and Power of Recent Motor Boats."
    ALPHEUS A. PACKARD, Esq.

17. "Recent Launching Practice of the Atlantic Coast."
Asst. Naval Constructor R. H. M. ROBINSON, U. S. N.

18. "Recent Launching Practice of the Pacific Coast."
EVERETT P. LESLEY, Esq.

VOLUME XIII.

Pages. *Plates and Drawings.*

PAPERS.

1. "Some Problems in Ferry Boat Propulsion."
COLONEL EDWIN A. STEVENS, Vice-President.

2. "Experiments With Ventilating Fans and Pipes."
Naval Constructor D. W. TAYLOR, U. S. N., Member of Council.

3. "Investigations Relating to the Action of Screw Propellers."
Professor WM. F. DURAND, Member of Council.

4. "Some Results of Tests of Model Propellers."
A. V. CURTIS, and L. F. HEWINS, Juniors.

5. "The Cruiser."
Commander WM. HOVGAARD, Royal Danish Navy, Member.



6. "A Comparison of Recent Battleships."
   Naval Constructor H. G. GILLMOR, U. S. N., Member.

7. "'THE ULTIMA,' a Globular Naval Battery."
   ANSON PHELPS STOKES, Associate.

8. "A Tale from Japan."
   GEORGE W. DICKIE, Member of Council.

9. "Longitudinal Bending Moments of Certain Lake Steamers."
   W. I. BABCOCK, Member of Council.

10. "Some Notes on Steam Boiler Troubles."
    HORACE SEE, Member of Council.

11. "Notes on the Strength of Water-tight Bulkheads for Battleships and Cruisers."
    HAROLD F. NORTON, Associate.

12. "Marine Turbine Propulsion."
    CHARLES G. CURTIS, Member.

13. "Marine Steam Turbine Developments."
    E. M. SPEAKMAN, Associate.

14. "Methods of Conducting Speed Trials."
    Naval Constructor J. J. WOODWARD, U. S. N., Member.

15. *"How a Ninety-footer Behaves in an Ocean Race."*
    PAUL EVE STEVENSON, Associate.



16. "Problems in Connection with High Speed Launches."
    CLINTON H. CRANE, Associate.

17. "Progressive Speed Trials of the Gasoline Launch 'LUDO.'"
    GEORGE CROUSE COOK, Member.

18. "Scantling Regulations in Yachting."
    W. P. STEPHENS, Associate.

Authors' Names and Papers.

Aldrich, Wm. S.
"Engineering Research in the Navy." Vol. 3.

Babbitt, E. B.
"Recent Experiments in Attacking Armor w
High Explosive Shells." Vol. 9.

Babcock, W. I.
"Portable Pneumatic Riveters in Shipbuildin
Vol. 6.
"System of Work in a Great Lake Shipyar
Vol. 7.
"Notes on the Sheathing." Vol. 7.
"Longitudinal Bending Moments of Certain L
Steamers." Vol. 13.

Bankson, Lloyd.
"Safety of Torpedo Boats at Sea and in Act
Under Various Conditions." Vol. 8.

Bates, Wm. W.
"Comparative Performance of American and F
eign Freighting Ships—Our Superiority." Vol.

Bauer, M. H.
"Graphic Calculations of a Ship's Stabilit
Vol. 11.

Baxter, William J.
"Notes on Launching." Vol. 2.
"Navy Yard Expenses." Vol. 5.

Belknap, F. W.
"Measurement Rules for Yachts, with Special F
erence to Racing Conditions." Vol. 10.



BERTIN, L. E.

"The Use of Small Models for the Determination tion of Curves of Stability." Vol. 2.

"The Position of the Center of Lateral Resistance." Vol. 12.

BLACKWELL, F. O.

"The Possible and Probable Future Development in the Use of Electricity on Board Ships." Vol. 10.

BOWLES, FRANCIS T.

"Remarks on the New Designs for Naval Vessels." Vol. 10.

BOYD, JAMES T.

"United States Treasury Rules for the Inspection of Machinery and Boilers." Vol. 1.

CASSIDY, ARTHUR B.

"The Standard Navy Boats." Vol. 6.

CHANDLER, L. H.

"Some Notes on the Performance of the Torpedo Vessels of the U. S. Navy at Sea." Vol. 11.

"Some Further Notes on the Performance of the Torpedo Boats of the United States Navy at Sea." Vol. 12.

CHACE, M. S.

"Notes on the Launching of the Cruiser 'Chattanooga'." Vol. 11.

CHENEAU, E.

"Cellulose and Its Application to War-ships." Vol. 2.

COLBY, ALBERT LADD

"Non-corrosive Nickel Steel Boiler Tubes." Vol. 11.



COOK, GEORGE C.

"Longitudinal Bending Stress on Damaged Ships." Vol. 10.

"Curves of Form of the Initial Condition." Vol. 11.

"Progressive Speed Trials of the Gasoline Launch 'LUDO'." Vol. 13.

COWLES, WM. BARNUM

"Water-Tight Bulkhead Doors — the 'Long Arm' System on the U. S. S. 'Chicago'." Vol. 5.

COX, D. H.

"Gasoline Engines for Marine Propulsion." Vol. 11.

CRAMP, CHAS. H.

"Evolution of the Atlantic Greyhound." Vol. 1.

"The Performance of the Imperial Russian Cruiser 'Variag'." Vol. 8.

CRAMP, HENRY W.

"Corn-Pith Cellulose." Vol. 4.

CRANE, CLINTON H.

"Some Thoughts on the Design of Modern Steam "Yachts." Vol. 11.

"High Speed Gasoline Launches." Vol. 12.

"Problems in Connection with High Speed Launches." Vol. 13.

CURTIS, CHARLES G.

"Marine Turbine Propulsion." Vol. 13.

CURTIS, A. V., AND HEWINS, L. F.

"Some Results of Tests of Model Propellers." Vol. 13.

DAVENPORT, RUSSELL W.

"Production in the United States of Heavy Steel *Engine*, Gun and Armor Forgings." Vol. 1.

DAVIS, L. D.

"*Accessibility* and Circulation of Water-Tube *Boilers.*" Vol. 2.

DENTON, JAMES E.
"Performance of the Twin-Screw Steamer 'City of Lowell'." Vol. 3.
DICKIE, JAMES.
"Overhead Cranes, Staging and Riveter Carrying Appliances in the Shipyard." Vol. 7.
"Launch of a Cruiser and a Battleship." Vol. 8.
DICKIE, GEO. W.
"Some Obstacles to Shipbuilding and Owning in this Country." Vol. 2.
"Torpedo Boat Destroyers for Sea Service, with Special Reference to the Conditions that Prevail on the Pacific Coast." Vol. 6.
"The Increasing Complications in Warships, and How Simpler Arrangements might be Adopted." Vol. 7.
"Can the American Shipbuilder under Present Conditions Compete with the British and German Shipbuilders in the Production of the Largest Class of Ocean Passenger and Freight Steamshipss?" Vol. 8.
"Why it Takes So Long Time to Build and Equip a Naval Vessel for the United States." Vol. 10.
"Simple Methods in Warship Designs a Necessity." Vol. 12.
"A Tale from Japan." Vol. 13.
DOWST, F. B.
"The Ventilation of Ships." Vol. 3.
DUBOSQUE, F. L.
"Speed Trials of a Screw-Propelled Ferry-Boat." Vol. 4.
DURAND, W. F., AND MCDERMOTT, GEO. R.
"An Approximate Formula for the Wetted Surface of Ships." Vol. 2.

DURAND, W. F.

"The Law of Frictional Resistance." Vol. 1.

"The Number of Longitudinal Intervals in Ship Competition, as Affecting the Accuracy of Integration for Displacement," and "Note on the Relation between Reduced and True Wetted Surface." Vol. 3.

"An Experimental Study of the Influence of Surface upon the Performance of Screw Propellers." Preliminary Paper. Vol. 5.

"On the Action of the Rudder, with Special Reference to the Motion of the Ship while the Helm is being put over." Vol. 7.

"Investigations Relating to the Action of Screw Propellers." Vol. 13.

FAIRBURN, WM. A.

"The Water-tube Boiler in the American Mercantile Marine." Vol. 10.

"Launching of Large Merchant Vessels." Vol. 11.

FORBES, W. D.

"Interchangeability of Units for Marine Work." Vol. 8.

"Uniform Specifications." Vol. 12.

FREAR, HUGO P.

"Use of Water Ballast for Colliers in the Pacific Coast Trade." Vol. 5.

GARDNER, WM.

"Steam Yachts as Naval Auxiliaries in Time of War." Vol. 1.

GILLMOR, H. G.

"Torpedo Boat Design." Vol. 5.

"Notes on Recent Improvements in Foreign Shipbuilding Plants." Vol. 8.

"A *Brief* Comparison of Recent Battleship Designs." Vol. 9.

"A *Comparison* of Recent Battleships." Vol. 13.

GREENE, S. DANA.
"Electricity on Shipboard—Its Present Position and Future Development." Vol. 2.
GROESBECK, WM. G.
"Side Launch of Torpedo Boats and Torpedo Boat Destroyers." Vol. 9.
"Notes on Side Launchings." Vol. 11.
HAIG, ROBERT
"Maintenance of Machinery in Merchant Ships." Vol. 12.
HAMMER, HUGO
"A Method of Calculating the Stability of Ships Adapted to the Use of Standard Curves of Stability." Vol. 4.
HANSCOM, CHARLES R.
"Description of the Design and Building of the 21,000-ton Steamships 'Minnesota' and "Dakota'." Vol. 11.
HIBBS, FRANK W.
"The Shipping and Shipbuilding of Puget Sound." Vol. 12.
HICHBORN, PHILIP
"Experience Gained with our New Steel Ships as Regards Care and Preservation." Vol. 2.
"Recent Designs for Vessels for the U. S. Navy." Vol. 3.
"The New Battleships." Vol. 4.
"Some Notes on the Speed Trials and Experience in Commission of our New Battleships." Vol. 5.
"Designs of the New Vessels for the U. S. Navy." Vol. 6.
"Designs for the 'Denver' Class Sheathed Protected Cruisers." Vol. 7.
"Recent Designs of Battleships and Cruisers of the U. S. N." Vol. 8.

HOVGAARD, WM.
"Watertight Subdivision of Warships." Vol. 11.
"The Seagoing Battleship." Vol. 12.
"The Cruiser." Vol. 13.
HYSLOP, JOHN
"Suggestions as to Improved Appliances for Launching Ships' Boats." Vol. 7.
KING, FRANK B.
"Hydraulic Sheers for Lifting One Hundred and Twenty-five Tons." Vol. 4.
KIRBY, FRANK E.
"Trial of Speed between the Steamers 'City of Erie' and 'Tashmoo'." Vol. 9.
LEAVITT, FRANK M.
"Power Consumed in Propelling the Whitehead Torpedo at Various Speeds." Vol. 9.
LELAND, WALTER S.
"Displacement and Stability Calculations." Vol. 11.
LESLEY, EVERETT P.
"Recent Launching Practice of the Pacific Coast." Vol. 12.
LINNARD, J. H.
"Naval Practice in Ship Rivets and Riveting." Vol. 4.
"The Metric System in Relation to the Shipbuilding Industry in the United States." Vol. 11.
LOVEKIN, LUTHER D.
"The Balancing of Valve Gears." Prize Competition Paper.' Vol. 10.
LUCAS, THEODORE
"Classification Rules." Vol. 8.
McDermoth & Durand, see Vol. 2, No. 15.
"*Screw Propellers*." Vol. 4.
"*Estimated* Weights of Machinery." Vol. 5.

McFARLAND, W. M.
"Electricity in Manufacturing Plants." Vol. 11.
McGUIRE, J. C.
"Aluminum—Its Alloys and Their Use in Ship Construction." Vol. 3.
MEADE, RICHARD W.
"Some Suggestions of Professional Experience in Connection with the Naval Construction of the Last Ten Years—1884-1894." Vol. 2.
MEIGS, J. F.
"Late Developments in Armor and Ordnance." Vol. 9.
MELVILLE, GEORGE W.
"Notes on the Machinery of the New Vessels of the United States Navy." Vol. 1.
"The U. S. Triple-Screw Cruisers 'Columbia' and 'Minneapolis'." Vol. 2.
"Causes for the Adoption of Water-Tube Boilers in the U. S. Navy." Vol. 7.
"The Theoretical and Practical Methods of Balancing Marine Engines." (Prize Competition Paper.) Vol. 9.
"Vibration of Steamships; with Special Reference to those of the 2d and Higher Periods." Vol. 10.
"Time Allowance for Steam Yacht Races." Vol. 12.
MILLER, SPENCER
"Coaling Vessels at Sea." Vol. 7.
"Coaling o fthe U. S. S. Massachusetts at Sea." Vol. 8.
"Coaling Warships at Sea—Recent Developments." Vol. 12.
MONTEAGLE, R. C.
"Notes on the Arrangements and Construction of Steam Pipes and their Connections." Vol. 11.



NIBLACK, ALBERT P.

"Coal Bunkers and Coaling Ship." Vol. 1.

"Tactinal Considerations Involved in War Ship Design." Vol. 3.

"Tactinal Consideration Involved in Torpedo-Boat Design." Vol. 7.

"The Tactics of the Gun." Vol. 10.

NIXON, LEWIS

"Yachts in England and America." Vol. 2.

"Steel Canal Boats." Vol. 4.

"Regulations for Loading Vessels." Vol. 5.

NORTON, H. F.

"Beam Formulæ Applied to a Vertically Stiffened Bulkhead, with some Results." Vol. 7.

"Notes on the Strength of Water-tight Bulkheads for Battleships and Cruisers." Vol. 13.

O'NEIL, CHARLES

"The Development of Modern Ordnance and Armor in the United States." Vol. 10.

O'NEIL, JAMES

"The Influence of Speed and Weight of Machinery on the Determination of the Other Elements of the Design of Steam Vessels." Vol. 1.

PACKARD, ALPHEUS A.

"Speed and Power of Recent Motor Boats." Vol. 12.

PANKHURST, JNO. F.

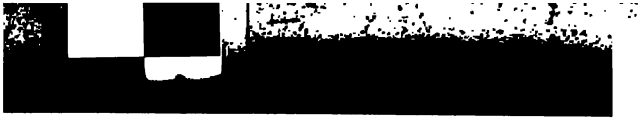
"The Development of Shipbuilding on the Great Lakes." Vol. 1.

PARSONS, H. DEB.

"American Fire-Boats." Vol. 4.

MILLER, E. F.

"A Dynamic Steam Engine Indicator Tester." *Vol. 2.*



PEABODY, C. H.
"Progressive Trials of the 'Guardian'." Vol. 5.
"Stability of a Battleship under Damaged Conditions." Vol. 6.
"Progressive Speed Trials of the U. S. S. Manning." Vol. 7.
"Some Problems on the Surfaces of Buoyancy and of Waterlines." Vol. 10.

POST, WALTER A.
"An Electrically Operated 150-ton Revolving Derrick." Vol. 6.

POWELL, J. W.
"The Preliminary Official Trial of the U. S. B. S. 'Maine'." Vol. 10.
"The U. S. Armored Cruiser 'Colorado'." Vol. 12.

PRITCHETT, HENRY S.
"Technical Training for Shipbuilders." Vol. 10.

ROBINSON, R. H. M.
"Recent Launching Practice of the Atlantic Coast." Vol. 12.

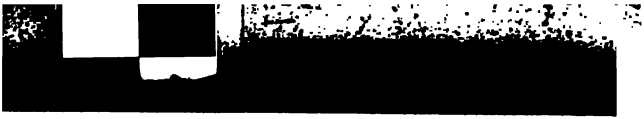
RUHM, T. F.
"Damaged Conditions as Affecting the Stability and Fighting Efficiency of Battleships." Vol. 4.

SABIN, A. H.
"The Composition and Classification of Paints and Varnishes." Vol. 8.

SADLER, H. C.
"Effect of Variation of Dimensions on the Stresses in a Ship's Structure." Vol. 9.

SAMPSON, W. T.
"Present Status of Face-Hardened Armor." Vol. 2.
"Test of an Experimental Turret of the U. S. Battleship "Massachusetts'." Vol. 4.

SEE, HORACE
"Some Notes on Steam Boiler Troubles." Vol. 1
SMITH, H. G.
"Methods of Securing Water-Tight Work Vol. 6.
SNOW, ELLIOT
"Rudder Experiments—U. S. S. 'Monterey' Vol. 3.
SOLIANI, NABOR
"Subdivision of Weights in Ships' Displacement Vol. 12.
SPEAKMAN, E. M.
"Marine Steam Turbine Developments." Vol. 1
SPEAR, LAWRENCE
"Bilge Keels and Rolling Experiments—U. S. 'Oregon'." Vol. 6.
"Submarine Torpedo Boats; Past, Present ar Future." Vol. 10.
SPILLER, H. A.
"Pneumatic Steering Gear—as Applied to the U S. Monitor 'Terror'." Vol. 5.
STAHL, ALBERT W.
"Hydraulic Power for Warships." Vol. 2.
"An Experimental Test of the Armored Side of t U. S. S. 'Iowa'." Vol. —.
STANBURY, GEORGE
"On the Rules of Lloyd's Register for Buildi Yachts to Class." Vol. 12.
STEPHENS, WM. P.
"The Centreboard—Its Influence on Design; I *Value* and Proper Use." Vol. 3.
"*The Steam* Yacht as a Naval Auxiliary." Vo
"*Scantling* Regulation in Yachting." Vol. 13.



STEVENS, E. A., AND PAULDING, CHARLES P.
"Some Notes on Tidal Corrections." Vol. 9.
"Progressive Trials of the Screw Ferry Boat 'Edgewater'." Vol. 10.

STEVENS, EDWIN A.
"Some Thoughts on the Design of New York Ferry Boats." Vol. 1.
"Progressive Trial of Ferry Boat 'Bremen'." Vol. 11.
"Some Problems in Ferry Boat Propulsion." Vol. 13.

STEVENSON, PAUL EVE
"How a Ninety-footer Behaves in an Ocean Race." Vol. 13.

STOKES, ANSON PHELPS
"The Semi-Globular Naval Battery." Vol. 12.
" 'The Ultima', a Globular Naval Battery." Vol. 13.

SWAN, JAMES
"Stability of a Ship in Damaged Condition.' Vol. 4.

TAFT, HARRISON S.
"A Comparison of the Contract Prices of our Naval Vessels." Vol. 8.

TAYLOR, DAVID W.
"The Wetted Surface of Ships." Vol. 1.
"Methods and Forms for Certain Ship Calculations." Vol. 3.
"The United States Experimental Model Basin." Vol. 8.
"The Theoretical and Practical Methods of Balancing Marine Engines." (Prize Competition Paper.) Vol. 9.
"Ship's Forms Derived by Formulæ." Vol. 11.
"Some Recent Experiments at the United States Model Basin." Vol. 12.
"Experiments With Ventilating Fans and Pipes." Vol. 13.

TAYLOR, HENRY C.
"American Maritime Development." Vol. 3.
WATT, R. M.
"Novelties in Ship Fittings." Vol. 7.
WETHERBEE, CHARLES P.
"Changes in Torpedo Boat Designs." Vol. 9.
WHEELER, C. E.
"The Commerce of the Great Lakes." Vol. 5.
WHEELER, F. M.
"Steam Economy Test of a Unique Form of Feed Pump." Vol. 6.
WILSON, THEODORE D.
"Steel Ships of the United States Navy." Vol. 1.
WOODWARD, JOSEPH J.
"Determination of the Approximate Dimensions of a Vessel to Fulfill a Given Programme of Requirements." Vol. 1.
"Recent Light-Draught Gunboats of the U. S. Navy." Vol. 2.
"Test of the Strength of a Longitudinal Bulkhead Separating Two Engine Rooms." Vol. 6.
"The Electric Plants of the Battleships 'Kearsarge' and 'Kentucky'." Vol. 7.
"Tests of the Electric Plants of the Battleships 'Kearsarge' and 'Kentucky'." Vol. 8.
"Methods of Conducting Speed Trials." Vol. 13.



Each Volume also Contains:

List of Officers.
List of Members and Associates.
Articles of Incorporation.
Constitution and By-Laws.
Proceedings of Annual Meeting.
President's Address.
Report of Secretary and Treasurer.
Discussions on each Paper by the Leading Naval Architects and Engineers of the Country.

Cloth Binding. Size of Page, Quarto.

MEMORANDUM.













